

**SEARCH REQUEST FORM****Scientific and Technical Information Center**

Requester's Full Name: Ana Marie Koss Examiner #: 78972 Date: 2/19/02  
 Art Unit: 1751 Phone Number 30 5-3176 Serial Number: 09/852,629  
 Mail Box and Bldg/Room Location: CP3 9B30 Results Format Preferred (circle): PAPER  DISK  E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: \_\_\_\_\_

Inventors (please provide full names): De La Mez

Earliest Priority Filing Date: 10/3/97

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

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Searcher: A. Fuller  
 Searcher Phone #: \_\_\_\_\_  
 Searcher Location: \_\_\_\_\_  
 Date Searcher Picked Up: \_\_\_\_\_  
 Date Completed: 2/28/02  
 Searcher Prep & Review Time: 20  
 Clerical Prep Time: \_\_\_\_\_  
 Online Time: 35

Type of Search	Vendors and cost where applicable
NA Sequence (#)	STN _____
AA Sequence (#)	Dialog _____
Structure (#)	Questel/Orbit _____
Bibliographic	Dr. Link _____
Litigation	Lexis/Nexis _____
Fulltext	Sequence Systems _____
Patent Family	WWW/Internet _____
Other	Other (specify) _____

KOSS 09/852624 Page 1

=> file reg  
FILE 'REGISTRY' ENTERED AT 16:42:08 ON 28 FEB 2002  
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STRUCTURE FILE UPDATES: 27 FEB 2002 HIGHEST RN 396639-34-2  
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TSCA INFORMATION NOW CURRENT THROUGH July 7, 2001

Please note that search-term pricing does apply when  
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Calculated physical property data is now available. See HELP PROPERTIES  
for more information. See STNote 27, Searching Properties in the CAS  
Registry File, for complete details:  
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

The P indicator for Preparations was not generated for all of the  
CAS Registry Numbers that were added to the H/Z/CA/CAplus files between  
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during this period, either directly appended to a CAS Registry Number  
or by qualifying an L-number with /P, may have yielded incomplete results.  
As of 1/23/02, the situation has been resolved. Also, note that searches  
conducted using the PREP role indicator were not affected.

Customers running searches and/or SDIs in the H/Z/CA/CAplus files  
incorporating CAS Registry Numbers with the P indicator between 12/27/01  
and 1/23/02, are encouraged to re-run these strategies. Contact the  
CAS Help Desk at 1-800-848-6533 in North America or 1-614-447-3698,  
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=> file hcaplus  
FILE 'HCAPLUS' ENTERED AT 16:42:16 ON 28 FEB 2002  
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FILE COVERS 1907 - 28 Feb 2002 VOL 136 ISS 9  
FILE LAST UPDATED: 27 Feb 2002 (20020227/ED)

This file contains CAS Registry Numbers for easy and accurate  
substance identification.

CAS roles have been modified effective December 16, 2001. Please

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The P indicator for Preparations was not generated for all of the CAS Registry Numbers that were added to the CAS files between 12/27/01 and 1/23/02. As of 1/23/02, the situation has been resolved. Searches and/or SDIs in the H/Z/CA/CAplus files incorporating CAS Registry Numbers with the P indicator executed between 12/27/01 and 1/23/02 may be incomplete. See the NEWS message on this topic for more information.

=> d que 170

L57 1732 SEA FILE=REGISTRY ABB=ON OXIDOREDUCTASE  
L58 79334 SEA FILE=HCAPLUS ABB=ON L57  
L59 83302 SEA FILE=HCAPLUS ABB=ON L58 OR ?OXIDOREDUCTASE?  
L60 274 SEA FILE=HCAPLUS ABB=ON L59(L)(HAIR OR KERATIN?)  
L61 317 SEA FILE=HCAPLUS ABB=ON L59(L)DYE?  
L62 75 SEA FILE=HCAPLUS ABB=ON L60 AND L61  
L63 39 SEA FILE=HCAPLUS ABB=ON L62 AND COUPL?  
L64 22 SEA FILE=HCAPLUS ABB=ON L62 AND ANION?(3A)SURFACT?  
L65 35 SEA FILE=HCAPLUS ABB=ON L62 AND (?GLUCOSE? OR ?SORBOSE? OR  
?XYLOSE? OR GLYCEROL# OR DIHYDROXY(W)ACETONE OR LACTIC OR  
LACTATE OR PYRUV? OR URIC OR RATE)  
L66 4 SEA FILE=HCAPLUS ABB=ON L62 AND (?ACYLTAUR? OR ?ACYLISETHIO?  
OR ?ACYLSARCON? OR ?ACYLGLUTAMAT? OR FATTY(W)GLUTAMID? OR  
?GALACTOSID? OR ?OXYALKYL?)  
L67 0 SEA FILE=HCAPLUS ABB=ON L62 AND ?GLUTAMID?  
L68 4 SEA FILE=HCAPLUS ABB=ON L66 OR L67  
L69 58 SEA FILE=HCAPLUS ABB=ON (L63 OR L64 OR L65 OR L66 OR L67 OR  
L68)  
L70 53 SEA FILE=HCAPLUS ABB=ON L69 AND (COMPOSITION? OR COMPNS)

=> d 170 all 1-53 hitstr

L70 ANSWER 1 OF 53 HCAPLUS COPYRIGHT 2002 ACS  
AN 2002:89799 HCAPLUS  
DN 136:139633  
TI Enzyme composition for bleaching human keratinous fibres and  
bleaching method  
IN Lang, Gerard; Plos, Gregory  
PA L'oreal, Fr.  
SO PCT Int. Appl., 28 pp.  
CODEN: PIXXD2  
DT Patent  
LA French  
IC ICM A61K007-135  
CC 62-4 (Essential Oils and Cosmetics)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2002007689	A1	20020131	WO 2001-FR2093	20010629	
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,				

BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
PRAI FR 2000-9621 A 20000721

AB The invention concerns a ready-to-use compn. for bleaching human keratinous fibers previously dyed with oxidn. dyes, comprising at least a 4-electron oxidoreductase enzyme, and at least an enzymic mediator. The invention also concerns a bleaching method using said compn. A hair bleach contained 1-hydroxy-benzotriazole 0.1, laccase (from *Rhus venicifear*, 180 units/mg) 1.8, excipients and water q.s. 100 g. The compn is applied on hair for 30 min, the hair is then rinsed, washed with a shampoo, and dried to remove the hair color.

ST enzyme hair bleach oxidoreductase

IT Polyelectrolytes

Surfactants  
(amphoteric; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Polyelectrolytes

Surfactants  
(anionic; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Hair preparations  
(bleaches; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Polyelectrolytes

Surfactants  
(cationic; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Hair preparations  
(dyés, oxidative; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Antioxidants  
*Cladosporium cladosporioides*  
Opacifiers  
Perfumes  
Preservatives  
Sequestering agents  
Surfactants  
Thickening agents  
(enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Ceramides  
Enzymes, biological studies  
Polymers, biological studies  
Polysiloxanes, biological studies  
RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT *Agaricus bisporus*  
*Anacardiaceae*  
Apple  
*Aspergillus nidulans*  
Avocado (*Persea americana*)  
Banana (*Musa*)  
*Botrytis cinerea*  
Carrot  
*Catharanthus roseus*  
*Ceriporiopsis subvermispora*  
*Cerrena unicolor*  
*Chaetomium thermophilum*  
Coffee (*Coffea*)

Coprinus cinereus  
 Dichomitus squalens  
 Fomes fomentarius  
 Ganoderma lucidum  
 Ginkgo biloba  
 Glomerella cingulata  
 Heterobasidion annosum  
 Horse chestnut (Aesculus)  
 Iris (plant)  
 Lacquer tree  
 Lactarius piperatus  
 Maple (Acer pseudoplatanus)  
 Monotropa hypopitys  
 Myceliophthora thermophila  
 Neurospora crassa  
 Panaeolus papilionaceus  
 Panaeolus sphinctrinus  
 Peach (Prunus persica)  
 Phellinus noxius  
 Pistacia palaestina  
 Pleurotus ostreatus  
 Podocarpaceae  
 Podospora anserina  
 Polyporus pinsitus  
 Potato (Solanum tuberosum)  
 Pyricularia oryzae  
 Rhizoctonia solani  
 Rigidoporus lignosus  
 Rosemary  
 Russula delica  
 Schizophyllum commune  
 Scytalidium  
 Thelephora terrestris  
 Trametes hirsuta  
 Trametes versicolor  
 Vinca minor  
     (laccase from; enzyme compn. for bleaching human keratinous  
     fibers, and bleaching method)

IT Surfactants  
     (nonionic; enzyme compn. for bleaching human keratinous  
     fibers, and bleaching method)  
 IT Surfactants  
     (zwitterionic; enzyme compn. for bleaching human keratinous  
     fibers, and bleaching method)  
 IT 50-53-3, Chlorpromazine, biological studies 84-08-2 84-97-9 87-39-8,  
 Violuric acid 100-65-2, Phenylhydroxylamine 118-02-5 131-91-9,  
 1-Nitroso 2-naphthol 132-53-6, 2-Nitroso-naphthol 134-96-3,  
 Syringaldehyde 362-03-8, 10-Phenothiazinepropionic acid 362-04-9,  
 Methyl 10 phenothiazinepropionate 524-38-9, N-Hydroxyphthalimide  
 530-57-4, Syringic acid 530-59-6 546-88-3, N-Acetylhydroxylamine  
 884-35-5, Methylsyringate 1207-72-3, 10-Methylphenothiazine 1532-72-5,  
 Isoquinoline N-oxide 1613-37-2 1637-16-7, 10 Ethyl phenothiazine  
 2007-19-4, 1-Nitroso 2-naphthol 3,6-disulfonic acid 2478-38-8,  
 Acetosyringone 2592-95-2, 1-Hydroxybenzotriazole 3682-32-4, 2-Nitroso  
 1-naphthol 4-sulfonic acid 3943-80-4, Ethylsyringate 4801-58-5,  
 1-Hydroxypiperidine 5765-61-7, N,N-Diisopropylhydroxylamine 6066-82-6  
 7152-42-3, 10 Phenylphenothiazine 7446-43-7, N,N-Dipropylhydroxylamine  
 7803-49-8, Hydroxylamine, biological studies 9002-10-2,  
 Tyrosinase 9003-99-0, Peroxidase 9055-15-6,  
 Oxidoreductase 15256-68-5 15375-48-1, 10 Propyl phenothiazine

17427-04-2, 10 Isopropyl phenothiazine 19607-03-5, 2-Chloro-10 methylphenothiazine 20962-92-9, 10 Allylphenothiazine 21977-42-4, 10 Phenoxyazine propionic acid 22308-86-7, 4-Hydroxy-3-nitrosocoumarin 25324-52-1, 2-Acetyl 10 methylphenothiazine 36207-63-3D, alkyl derivs. 54784-33-7, 1,3-Dimethyl-5-nitroso-barbituric acid 59118-51-3, 1-Hydroxybenzimidazole 60411-11-2 80498-15-3, Laccase 90510-22-8, Hexylsyringate 136832-74-1 157254-35-8, 4-Carboxy-10-phenoxazine propionic acid 177959-98-7, Butylsyringate 177959-99-8, Octylsyringate 309744-02-3 325480-33-9

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(enzyme compn. for bleaching human keratinous fibers, and bleaching method)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Ciba; GB 2304107 A 1997 HCPLUS
- (2) L'Oreal; EP 1062938 A 2000 HCPLUS
- (3) Novo Nordisk; WO 9741215 A 1997 HCPLUS
- (4) Novo Nordisk; WO 9840471 A 1998 HCPLUS
- (5) Sorensen, N; US 5899212 A 1999

IT 9002-10-2, Tyrosinase 9055-15-6, Oxidoreductase

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
(enzyme compn. for bleaching human keratinous fibers, and bleaching method)

RN 9002-10-2 HCPLUS

CN Oxygenase, monophenol mono- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 2 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2002:89797 HCPLUS

DN 136:139603

TI Enzyme composition for bleaching human keratinous fibers, and bleaching method

IN Lang, Gerard; Plos, Gregory

PA L'oreal, Fr.

SO PCT Int. Appl., 30 pp..

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-135

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE	
PI	WO 2002007687	A1	20020131	WO 2001-FR2091	20010629	
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				

PRAI FR 2000-9620 A 20000721

AB The invention concerns a ready-to-use compn. for bleaching human

keratinous fibers previously dyed with direct dyes, in particular hair, comprising at least a 4-electron oxidoreductase enzyme, and at least an enzymic mediator. The invention also concerns a bleaching method using said compn. A hair bleach contained 1-hydroxy-benzotriazole 0.1, laccase (from Rhus venicifear, 180 units/mg) 1.8, excipients and water q.s. 100 g. The compn is applied on hair for 30 min, the hair is then rinsed, washed with a shampoo, and dried to removver the hair color.

ST enzyme hair bleach oxidoreductase

IT Polyelectrolytes

Surfactants

(amphoteric; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Polyelectrolytes

Surfactants

(anionic; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Hair preparations

(bleaches; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Dyes

Polyelectrolytes

Surfactants

(cationic; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Dyes

(direct; enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Anthraquinone dyes

Antioxidants

Cladosporium cladosporioides

Opacifiers

Perfumes

Preservatives

Sequestering agents

Surfactants

Thickening agents

(enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Ceramides

Enzymes, biological studies

Polymers, biological studies

Polysiloxanes, biological studies

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)

(enzyme compn. for bleaching human keratinous fibers, and bleaching method)

IT Agaricus bisporus

Anacardiaceae

Apple

Aspergillus nidulans

Avocado (*Persea americana*)

Banana (*Musa*)

Botrytis cinerea

Carrot

Catharanthus roseus

Ceriporiopsis subvermispora

Cerrena unicolor

Chaetomium thermophilum

Coffee (*Coffea*)

Coprinus cinereus  
Dichomitus squalens  
Fomes fomentarius  
Ganoderma lucidum  
Ginkgo biloba  
Glomerella cingulata  
Heterobasidion annosum  
Horse chestnut (*Aesculus*)  
Iris (plant)  
Lacquer tree  
Lactarius piperatus  
Maple (*Acer pseudoplatanus*)  
Monotropa hypopitys  
Myceliophthora thermophila  
Neurospora crassa  
Panaeolus papilionaceus  
Panaeolus sphinctrinus  
Peach (*Prunus persica*)  
Phellinus noxius  
Pistacia palaestina  
Pleurotus ostreatus  
Podocarpaceae  
Podospora anserina  
Polyporus pinsitus  
Potato (*Solanum tuberosum*)  
Pyricularia oryzae  
Rhizoctonia solani  
Rigidoporus lignosus  
Rosemary  
Russula delica  
Schizophyllum commune  
Scytalidium  
Thelephora terrestris  
Trametes hirsuta  
Trametes versicolor  
Vinca minor  
    (laccase from; enzyme compn. for bleaching human keratinous  
    fibers, and bleaching method)

IT Surfactants  
    (nonionic; enzyme compn. for bleaching human keratinous  
    fibers, and bleaching method)

IT Surfactants  
    (zwitterionic; enzyme compn. for bleaching human keratinous  
    fibers, and bleaching method)

IT 50-53-3, Chlorpromazine, biological studies 84-08-2 84-97-9 87-39-8,  
Violuric acid 100-65-2, Phenylhydroxylamine 118-02-5,  
2,4-Dinitroso-1,3-dihydroxybenzene 131-91-9, 1-Nitroso 2-naphthol  
132-53-6, 2-Nitroso-naphthol 134-96-3, Syringaldehyde 362-03-8,  
10-Phenothiazinepropionic acid 362-04-9, Methyl 10  
phenothiazinepropionate 524-38-9, N-Hydroxyphthalimide 530-57-4,  
Syringic acid 530-59-6 546-88-3, N-Acetylhydroxylamine 884-35-5,  
Methysyringate 1207-72-3, 10-Methylphenothiazine 1532-72-5,  
Isoquinoline N-oxide 1613-37-2 1637-16-7, 10 Ethyl phenothiazine  
2007-19-4, 1-Nitroso 2-naphthol 3,6-disulfonic acid 2478-38-8,  
Acetosyringone 2592-95-2, 1-Hydroxybenzotriazole 3682-32-4, 2-Nitroso  
1-naphthol 4-sulfonic acid 3943-80-4, Ethylsyringate 4801-58-5,  
1-Hydroxypiperidine 5765-61-7, N,N-Diisopropylhydroxylamine 6066-82-6  
7152-42-3, 10 Phenylphenothiazine 7446-43-7, N,N-Dipropylhydroxylamine  
7803-49-8, Hydroxylamine, biological studies 9002-10-2,  
Tyrosinase 9003-99-0, Peroxidase 9055-15-6,

**Oxidoreductase** 15256-68-5 15375-48-1, 10 Propyl phenothiazine  
 17427-04-2, 10 Isopropyl phenothiazine 19607-03-5, 2-Chloro-10  
 methylphenothiazine 20962-92-9, 10 Allylphenothiazine 21977-42-4, 10  
 Phenoxyazine propionic acid 22308-86-7, 4-Hydroxy-3-nitrosocoumarin  
 25324-52-1, 2-Acetyl 10 methylphenothiazine 36207-63-3D, alkyl derivs.  
 54784-33-7, 1,3-Dimethyl-5-nitroso-barbituric acid 59118-51-3,  
 1-Hydroxybenzimidazole 60411-11-2 80498-15-3, Laccase 90510-22-8,  
 Hexylsyringate 136832-74-1 157254-35-8, 4-Carboxy-10-phenoxyazine  
 propionic acid 177959-98-7, Butylsyringate 177959-99-8, Octylsyringate  
 309744-02-3 325480-33-9, 1-Hydroxybenzotriazole sulfonic acid  
 RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (enzyme compn. for bleaching human keratinous  
 fibers, and bleaching method)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Ciba; GB 2304107 A 1997 HCPLUS
- (2) L'Oreal; EP 1062938 A 2000 HCPLUS
- (3) Novo Nordisk; WO 9741215 A 1997 HCPLUS
- (4) Novo Nordisk; WO 9840471 A 1998 HCPLUS
- (5) Sorenson, N; US 5899212 A 1999

IT 9002-10-2, Tyrosinase 9055-15-6, **Oxidoreductase**

RL: COS (Cosmetic use); BIOL (Biological study); USES (Uses)  
 (enzyme compn. for bleaching human keratinous  
 fibers, and bleaching method)

RN 9002-10-2 HCPLUS

CN Oxygenase, monophenol mono- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 3 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:864704 HCPLUS

DN 136:10880

TI Oxididant compositions for use in hair dye, hair wave, and hair  
 bleaching compositions

IN Kravtchenko, Sylvain; Plos, Gregory

PA L'Oreal, Fr.

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA French

IC ICM A61K007-13

ICS A61K007-135; A61K007-09; A61K007-06

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1157684	A2	20011128	EP 2001-401171	20010507
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2808680	A1	20011116	FR 2000-6153	20000515
	JP 2001354527	A2	20011225	JP 2001-145697	20010515
PRAI	FR 2000-6153	A	20000515		
AB	Oxididant compns. for use in hair dye, hair wave, and hair bleaching compns. are disclosed comprising an enzymic oxidant such as oxidoreductase or peroxidase and a maleic anhydride-vinyl ether copolymer. An oxidant				

compn. contained uricase 20,000 U, Stabileze QM 1, polyglycerol monooleate 1, N-acetyl-L-cysteine 0.1, 2-amino-2-methyl-1-propanol q.s. pH = 9.5, uric acid 1, and water q.s. 100%.

ST oxidant hair bleach enzyme **oxidoreductase peroxidase;**  
**hair dye oxidant enzyme oxidoreductase**  
**peroxidase; wave hair oxidant enzyme oxidoreductase**  
**peroxidase**

IT Polyelectrolytes  
Surfactants  
(amphoteric; oxidant compns. for use in hair dye, hair wave,  
and hair bleaching compns.)

IT Surfactants  
(anionic; oxidant compns. for use in hair dye, hair  
wave, and hair bleaching compns.)

IT Radish (*Raphanus sativus*)  
(black, peroxidases from; oxidant compns. for use in hair  
dye, hair wave, and hair bleaching compns.)

IT Hair preparations  
(bleaches; oxidant compns. for use in hair dye, hair wave,  
and hair bleaching compns.)

IT Hair preparations  
(dyes; oxidant compns. for use in hair dye, hair wave, and  
hair bleaching compns.)

IT *Agaricus bisporus*  
*Anacardiaceae*  
Apple  
*Aspergillus nidulans*  
*Avocado (Persea americana)*  
*Banana (Musa)*  
*Botrytis cinerea*  
Carrot  
*Catharanthus roseus*  
*Ceriporiopsis subvermispora*  
*Cerrena unicolor*  
*Chaetomium thermophilum*  
*Cladosporium cladosporioides*  
Coffee (Coffea)  
*Coprinus cinereus*  
*Dichomitus squalens*  
*Fomes fomentarius*  
*Ganoderma lucidum*  
*Ginkgo biloba*  
*Glomerella cingulata*  
*Heterobasidion annosum*  
*Horse chestnut (Aesculus)*  
*Iris (plant)*  
Lacquer tree  
*Lactarius piperatus*  
Maple (*Acer pseudoplatanus*)  
*Monotropa hypopitys*  
*Myceliophthora thermophila*  
*Neurospora crassa*  
*Panaeolus papilionaceus*  
*Panaeolus sphinctrinus*  
Peach (*Prunus persica*)  
*Phellinus noxius*  
*Pistacia palaestina*  
*Pleurotus ostreatus*  
*Podocarpaceae*  
*Podospora anserina*

Polyporus pinsitus  
Potato (*Solanum tuberosum*)  
Pyricularia oryzae  
Rhizoctonia solani  
Rigidoporus lignosus  
Rosemary  
Russula delica  
Schizophyllum commune  
Scytalidium  
Thelephora terrestris  
Trametes hirsuta  
Trametes versicolor  
Vinca minor  
(laccases from; oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT Surfactants  
(nonionic; oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT Solvents  
(org.; oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT Antioxidants  
Opacifiers  
Oxidizing agents  
Perfumes  
Preservatives  
Sequestering agents  
Surfactants  
Thickening agents  
(oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT Enzymes, biological studies  
Polymers, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT Hair preparations  
(permanent wave; oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT Acetobacter pasteurianus  
Apricot (*Prunus armeniaca*)  
Arthromyces ramosus  
Beet  
Cabbage  
Corn  
Cotton  
Garlic (*Allium sativum*)  
Microorganism  
Milk  
Mint  
Orange  
Raisin  
Rhubarb (*Rheum*)  
Soybean (*Glycine max*)  
Spinach (*Spinacia oleracea*)  
Staphylococcus faecalis  
(peroxidases from; oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT Surfactants

(zwitterionic; oxidant compns. for use in hair dye, hair wave, and hair bleaching compns.)

IT 91-20-3D, Naphthalene, polyhydroxyl derivs. 95-54-5D,  
1,2-Benzenediamine, derivs. 95-55-6D, o-Aminophenol, derivs.  
106-50-3D, 1,4-Benzenediamine, derivs. 108-45-2D, 1,3-Benzenediamine,  
derivs. 123-30-8D, p-Aminophenol, derivs. 533-31-3D, Sesamol, derivs.  
2835-95-2, 2-Methyl-5-aminophenol 9001-05-2, Catalase 9001-37-0  
, Glucose oxidase 9001-96-1, Pyruvate oxidase  
9002-10-2, Tyrosinase 9002-12-4, Uricase 9003-99-0,  
Peroxidase 9011-16-9, Maleic anhydride-methyl vinyl ether copolymer  
9013-66-5, Glutathione peroxidase 9028-67-5, Choline oxidase  
9028-72-2, Lactate oxidase 9029-22-5, Sarcosine oxidase  
9029-51-0 9029-52-1, Fatty acid peroxidase 9029-53-2, Cytochrome c  
peroxidase 9031-28-1, Iodide peroxidase 9032-24-0, NADH peroxidase  
9055-15-6, Oxidoreductase 9055-20-3, Chloride  
peroxidase 9082-61-5, Amino acid oxidase 27100-68-1, Maleic  
anhydride-vinyl ether copolymer 37250-80-9, Pyranose oxidase  
66422-95-5 69151-32-2 69669-73-4, Glycerol oxidase  
72906-87-7, L-Ascorbate peroxidase 80498-15-3, Laccase 80619-01-8,  
Bilirubin oxidase 136392-67-1, Stabileze QM  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidant compns. for use in hair dye,  
hair wave, and hair bleaching compns.)

IT 9001-37-0, Glucose oxidase 9002-10-2,  
Tyrosinase 9002-12-4, Uricase 9055-15-6,  
Oxidoreductase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidant compns. for use in hair dye,  
hair wave, and hair bleaching compns.)

RN 9001-37-0 HCPLUS  
CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-10-2 HCPLUS  
CN Oxygenase, monophenol mono- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS  
CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS  
CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 4 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:796236 HCPLUS

DN 135:348713

TI Oxidative hair dye compositions comprising 1-aminophenyl-pyrrolidine and a cationic polymer

IN Kravtchenko, Sylvain; Lagrange, Alain

PA L'Oreal, Fr.

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1149577	A1	20011031	EP 2001-400881	20010405
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2807652	A1	20011019	FR 2000-4993	20000418
	JP 2001354532	A2	20011225	JP 2001-120412	20010418
PRAI	FR 2000-4993	A	20000418		
OS	MARPAT 135:348713				
AB	Oxidative hair dye compns. comprising 1-(4-aminophenyl)pyrrolidine and a cationic polymer are disclosed. A hair dye contained 1-(4-aminophenyl)-pyrrolidine dihydrochloride 0.470, 2,4-diamino-1-(.beta.-hydroxyethoxy)-benzene dihydrochloride 0.482, a cationic polymer 1, excipients and water q.s. 100 g. Equal amt. of the compn. is mixed with 20 vol hydrogen peroxide and applied on the hair for 30 min., the hair is then rinsed, washed with a shampoo, rinsed, and dried.				
ST	oxidative hair dye aminophenylpyrrolidine cationic polymer				
IT	Bromates				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(alkali metal; oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Surfactants				
	(amphoteric; oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Surfactants				
	(anionic; oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Polyelectrolytes				
	Surfactants				
	(cationic; oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Hair preparations				
	(dyes, oxidative; oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Surfactants				
	(nonionic; oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Salts, biological studies				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(of peroxy acids; oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Antioxidants				
	Coupling agents				
	Oxidizing agents				
	Thickening agents				
	(oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	Enzymes, biological studies				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(oxidative hair dye compns. comprising aminophenylpyrrolidine and cationic polymer)				
IT	89-25-8 90-15-3, ..alpha..-Naphthol 95-88-5 108-26-9 108-45-2, 1,3-Benzenediamine, biological studies 108-46-3, 1,3-Benzenediol, biological studies 124-43-6 533-31-3, Sesamol 591-27-5 608-25-3				

2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2835-95-2  
 4664-16-8, 2,6-Dihydroxy-4-methylpyridine 4770-37-0, 6-Hydroxyindoline  
 7556-37-8 7722-84-1, Hydrogen peroxide, biological studies 9003-99-0,  
 Peroxidase 9036-19-5, Octoxynol 40 9055-15-6,  
 Oxidoreductase 16867-03-1, 2-Amino-3-hydroxypyridine  
 20493-87-2 20493-99-6 24938-91-8, Trideceth 12 30569-52-9,  
 3,6-Dimethylpyrazolo[3,2-c]-1,2,4-triazole 39365-90-7 55302-96-0  
 69151-32-2 70643-19-5 80498-15-3, Laccase 81892-72-0 83763-47-7  
 93846-05-0  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. comprising  
 aminophenylpyrrolidine and cationic polymer)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; PATENT ABSTRACTS OF JAPAN 1999, V1999(11)
- (2) Bittner Andreas Joachim; WO 9801106 A 1998 HCPLUS
- (3) Fuji Photo Film Co Ltd; JP 11158048 A 1999 HCPLUS
- (4) Oreal; FR 2458281 A 1981 HCPLUS
- (5) Plue, A; US 3701769 A 1972 HCPLUS
- (6) Schwarzkopf Gmbh Hans; DE 19728336 A 1998 HCPLUS
- (7) Squibb Bristol Myers Co; EP 0891765 A 1999 HCPLUS
- (8) Squibb Bristol Myers Co; EP 0962452 A 1999 HCPLUS
- (9) Yuh-Guo, P; US 5876464 A 1999 HCPLUS

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. comprising  
 aminophenylpyrrolidine and cationic polymer)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 5 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 2001:796235 HCPLUS  
 DN 135:348712  
 TI Oxidative hair dye compositions comprising 1-(4-aminophenyl)pyrrolidine and a carbohydrate-based polymer  
 IN Kravtchenko, Sylvain; Lagrange, Alain  
 PA L'Oreal, Fr.  
 SO Eur. Pat. Appl., 18 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1149576	A1	20011031	EP 2001-400880	20010405
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2807651	A1	20011019	FR 2000-4992	20000418
	JP 2001335445	A2	20011204	JP 2001-120413	20010418
PRAI	FR 2000-4992	A	20000418		
OS	MARPAT 135:348712				
AB	Oxidative hair dye compns. comprising 1-(4-aminophenyl)pyrrolidine and a carbohydrate-based polymer are disclosed. A hair dye contained 1-(4-aminophenyl)-pyrrolidine dihydrochloride 0.470,				

2,4-diamino-1-(.beta.-hydroxyethoxy)-benzene dihydrochloride 0.482, nonionic guar gum 0.75, excipients and water q.s. 100 g. Equal amt. of the compn. is mixed with 20 vol hydrogen peroxide and applied on the hair for 30 min., the hair is then rinsed, washed with a shampoo, rinsed, and dried.

ST oxidative hair dye aminophenylpyrrolidine carbohydrate polymer

IT Bromates  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (alkali metal; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Surfactants  
 (amphoteric; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Surfactants  
 (anionic; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Polyelectrolytes  
 Surfactants  
 (cationic; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Hair preparations  
 (dyes, oxidative; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Phenols, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (naphthols; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Surfactants  
 (nonionic; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Salts, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (of peroxy acids; oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Antioxidants  
 Coupling agents  
 Oxidizing agents  
 Thickening agents  
 (oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT Enzymes, biological studies  
 Polysaccharides, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT 9000-30-0, Guar gum  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (Meypro-Guar 50, non-ionic; oxidative hair dye compns.  
 comprising aminophenylpyrrolidine and carbohydrate-based polymer)

IT 89-25-8 90-15-3, .alpha.-Naphthol 95-88-5 108-26-9 108-45-2,  
 1,3-Benzenediamine, biological studies 108-45-2D, 1,3-Benzenediamine,  
 derivs. 108-46-3, 1,3-Benzenediol, biological studies 124-43-6  
 533-31-3, Sesamol 591-27-5 591-27-5D, derivs. 608-25-3 2380-86-1,  
 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2835-95-2 4664-16-8,  
 2,6-Dihydroxy-4-methylpyridine 4770-37-0, 6-Hydroxy indoline 7556-37-8

7722-84-1, Hydrogen peroxide, biological studies 9000-01-5, Gum arabic  
 9000-07-1, Carrageenan 9000-28-6, Ghatti gum 9000-36-6, Karaya gum  
 9000-40-2, Carob gum 9000-65-1, Tragacanth 9000-69-5, Pectin  
 9002-18-0, Agar 9003-99-0, Peroxidase 9005-25-8, Starch, biological  
 studies 9005-32-7, Alginic acid 9055-15-6,  
**Oxidoreductase** 11138-66-2, Xanthan 16867-03-1,  
 2-Amino-3-hydroxypyridine 30569-52-9, 3-6-Dimethylpyrazolo[3,2-c]-1,2,4-  
 triazole 39464-87-4, Scleroglucan 55302-96-0 69151-32-2 70643-19-5  
 80498-15-3, Laccase 81892-72-0 83763-47-7 93846-05-0  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. comprising  
 aminophenylpyrrolidine and carbohydrate-based polymer)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; PATENT ABSTRACTS OF JAPAN 1999, V1999(11)
- (2) Bittner Andreas Joachim; WO 9801106 A 1998 HCPLUS
- (3) Fuji Photo Film Co Ltd; JP 11158048 A 1999 HCPLUS
- (4) Oreal; FR 2773472 A 1999 HCPLUS
- (5) Samain, H; US 5685882 A 1997 HCPLUS
- (6) Schwarzkopf Gmbh Hans; DE 19728336 A 1998 HCPLUS
- (7) Squibb Bristol Myers Co; EP 0891765 A 1999 HCPLUS
- (8) Squibb Bristol Myers Co; EP 0962452 A 1999 HCPLUS
- (9) Yuh-Guo, P; US 5876464 A 1999 HCPLUS

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. comprising  
 aminophenylpyrrolidine and carbohydrate-based polymer)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 6 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 2001:796234 HCPLUS  
 DN 135:348711  
 TI Oxidative hair dye compositions comprising 1-(4-aminophenyl)-  
 pyrrolidine derivatives and a particular direct dye  
 IN Kravtchenko, Sylvain; Lagrange, Alain  
 PA L'Oreal, Fr.  
 SO Eur. Pat. Appl., 100 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1149575	A1	20011031	EP 2001-400879	20010405
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2807650	A1	20011019	FR 2000-4991	20000418
	JP 2001335446	A2	20011204	JP 2001-120414	20010418
PRAI	FR 2000-4991	A	20000418		
OS	MARPAT 135:348711				
AB	Oxidative hair dye compns. comprise 1-(4-aminophenyl)- pyrrolidine and a particular direct dye such as nitrobenzene derivs. or quaternary ammonium derivs. A hair dye contained 1-(4-aminophenyl)-				

pyrrolidine dihydrochloride 0.235, 2,4-diamino-1-(.beta.-hydroxyethoxy)-benzene dihydrochloride 0.241, Basic Red-51 0.168, excipients and water q.s. 100 g. Equal amt. of the compn. is mixed with 20 vol hydrogen peroxide and applied on the hair for 30 min, the hair is then rinsed, washed with a shampoo, rinsed, and dried.

ST oxidative hair dye aminophenylpyrrolidine direct dye

IT Bromates  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(alkali metal; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Hair preparations  
(creams; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Dyes  
(direct; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Hair preparations  
(dyes, oxidative; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Alcohols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(fatty; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Hair preparations  
(gels; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Phenols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(naphthols; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Salts, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(of peroxy acids; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Solvents  
(org.; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Antioxidants  
**Coupling agents**  
Opacifiers  
Oxidizing agents  
Preservatives  
Reducing agents  
Sequestering agents  
Sunscreens  
Thickening agents  
(oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Acids, biological studies  
Alkali metal hydroxides  
Ceramides  
Paraffin oils  
Peroxysulfates  
Polymers, biological studies  
Polysiloxanes, biological studies  
Vitamins

## Waxes

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Group IIIA element compounds

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(perborates; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT Fats and Glyceridic oils, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(vegetable; oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT 89-25-8 90-15-3, .alpha.-Naphthol 95-54-5, o-Phenylenediamine, biological studies 95-55-6, o-Aminophenol 95-70-5 95-88-5 99-56-9  
 99-57-0 106-50-3, 1,4-Benzenediamine, biological studies 108-26-9  
 108-45-2, 1,3-Benzenediamine, biological studies 108-45-2D,  
 1,3-Benzenediamine, derivs. 108-46-3, 1,3-Benzenediol, biological studies 119-34-6 121-88-0 123-30-8, p-Aminophenol 124-43-6  
 533-31-3, Sesamol 570-24-1 591-27-5 591-27-5D, derivs. 603-85-0  
 608-25-3 610-81-1 2380-86-1, 6-Hydroxyindole 2380-94-1,  
 4-Hydroxyindole 2784-94-3 2835-95-2 2871-01-4 2973-21-9  
 4664-16-8, 2,6-Dihydroxy-4-methyl pyridine 4770-37-0, 6-Hydroxyindoline 4926-55-0 5131-58-8 5307-14-2 6358-09-4 6687-56-5 7077-55-6  
 7267-43-8 7556-37-8 7575-35-1 7687-09-4 7687-11-8 7722-84-1,  
 Hydrogen peroxide, biological studies 9003-99-0, Peroxidase  
 9055-15-6, Oxidoreductase 10228-03-2 12270-25-6,  
 Basic Red-51 13556-31-5 13586-81-7 16867-03-1, 2-Amino-3-hydroxypyridine 21425-62-7 24455-90-1 24905-87-1 27080-42-8  
 29705-39-3 30075-29-7 30569-52-9, 3,6-Dimethylpyrazolo[3,2-c]1,2,4-triazole 33229-34-4 38866-11-4 39838-87-4 41338-82-3 41338-83-4  
 41338-95-8 41338-98-1 41339-00-8 42476-20-0 50610-28-1  
 50982-74-6 51138-16-0 51473-40-6 51473-50-8 52132-00-0  
 52132-02-2 52132-03-3 52132-04-4 52132-05-5 52132-06-6  
 52132-11-3 52132-12-4 52132-13-5 52132-14-6 52132-15-7  
 52132-16-8 52132-17-9 52132-18-0 52132-19-1 52132-20-4  
 52132-21-5 52132-22-6 52132-23-7 52132-24-8 52132-25-9  
 52132-26-0 52132-27-1 52132-28-2 52132-30-6 52132-31-7  
 54940-81-7 55302-96-0 56932-44-6 57524-53-5 59405-36-6  
 59405-38-8 59405-42-4 59405-44-6 59405-54-8 59405-55-9  
 59405-57-1 59405-59-3 59405-61-7 59405-67-3 59405-69-5  
 59642-65-8 59642-67-0 59642-69-2 59642-73-8 59642-75-0  
 59642-77-2 59642-93-2 59642-95-4 59643-09-3 59643-10-6  
 59820-43-8 59820-63-2 62163-15-9 63810-68-4 64651-39-4  
 66095-81-6 66422-95-5 66748-37-6 68259-00-7 68912-02-7  
 69151-32-2 70643-19-5 73447-48-0 75655-00-4 77061-58-6  
 80062-31-3 80498-15-3, Laccase 81608-25-5 81612-54-6 82576-74-7  
 82576-75-8 82856-89-1 82856-91-5 82857-00-9 83763-47-7  
 83950-26-9 84741-77-5 84912-24-3 85765-48-6 86419-67-2  
 86419-73-0 86419-75-2 86419-76-3 89923-52-4 92888-19-2  
 92952-81-3 93569-38-1 93569-39-2 93846-05-0 93940-65-9  
 97404-02-9 99133-38-7 104226-19-9 104766-44-1 109023-83-8  
 109220-25-9 110220-09-2 131657-78-8 141973-33-3 143084-49-5  
 160598-04-9 161328-83-2 161328-85-4 161328-86-5 161328-87-6  
 161328-89-8 161328-91-2 161328-92-3 161328-94-5 161328-95-6  
 161328-96-7 161328-99-0 161329-01-7 161329-02-8 161329-06-2  
 161329-07-3 161329-08-4 161329-09-5 161329-15-3 161329-16-4  
 161329-17-5 161329-18-6 161329-22-2 161329-23-3 161329-25-5

161329-27-7	161329-28-8	161329-29-9	161329-30-2	161329-31-3
161329-35-7	161329-37-9	161329-38-0	161329-39-1	161329-40-4
161329-42-6	161329-43-7	161329-44-8	161329-45-9	161329-47-1
161329-49-3	163260-77-3	165672-34-4	167382-76-5	167382-77-6
167382-78-7	167382-79-8	167382-80-1	167382-82-3	167382-83-4
167382-87-8	167382-88-9	167382-95-8	167382-96-9	167382-97-0
167382-98-1	167382-99-2	178822-03-2	178822-05-4	209323-28-4
211050-61-2	220011-43-8	223577-35-3	223577-36-4	223577-37-5

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

IT 223577-38-6 223577-39-7 223577-40-0 223577-41-1 232284-18-3  
 251352-40-6 251352-41-7 251352-42-8 251352-43-9 251352-44-0  
 251352-45-1 251352-46-2 251352-47-3 251352-48-4 251352-49-5  
 251352-50-8 251352-55-3 259545-90-9 370870-49-8 370871-23-1  
 370871-25-3 370871-28-6 370871-30-0 370871-33-3 370871-35-5  
 370871-37-7 370871-48-0 370872-18-7 370872-71-2

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Akram, M; US 5067967 A 1991 HCPLUS
- (2) Anon; PATENT ABSTRACTS OF JAPAN 1999, V1999(11)
- (3) Bittner Andreas Joachim; WO 9801106 A 1998 HCPLUS
- (4) Fuji Photo Film Co Ltd; JP 11158048 A 1999 HCPLUS
- (5) Oreal; EP 0920856 A 1999 HCPLUS
- (6) Oreal; EP 0970687 A 2000 HCPLUS
- (7) Plue, A; US 3701769 A 1972 HCPLUS
- (8) Schwarzkopf Gmbh Hans; DE 19728336 A 1998 HCPLUS
- (9) Squibb Bristol Myers Co; EP 0891765 A 1999 HCPLUS
- (10) Squibb Bristol Myers Co; EP 0962452 A 1999 HCPLUS
- (11) Yuh-Guo, P; US 5876464 A 1999 HCPLUS

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. comprising aminophenylpyrrolidine derivs. and particular direct dye)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 7 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:780635 HCPLUS

DN 135:335001

TI Oxidation dyeing composition for keratinous fibers comprising a 3,5-diamino-pyridine derivative and a cationic or amphoteric polymer

IN Audouset, Marie-pascale

PA L'oreal, Fr.

SO PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

PATENT NO. KIND DATE APPLICATION NO. DATE

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PI	WO 2001078669	A1	20011025	WO 2001-FR847	20010321
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2807654	A1	20011019	FR 2000-4720	20000412
PRAI	FR 2000-4720	A	20000412		
OS	MARPAT 135:335001				
AB	<p>The invention concerns an oxidn. dyeing compn. for keratinous fibers, in particular human keratinous dyeing such as hair comprising, in a medium suitable for dyeing, at least a coupling agent selected among 3,5-diamino-pyridine derivs. and their addn. salts with an acid, at least an oxidn. base, and at least a particular cationic or amphoteric polymer. The invention also concerns dyeing methods and devices using said compn. An oxidative hair dye contained 2,6-dimethoxy-3,5-diamino-pyridine hydrochloride 0.363, p-phenylenediamine 0.324, 2,4-diamino-1-(.beta.-hydroxy-ethoxy)benzene 0.361, a quaternary ammonium polymer 2.16, excipients and water q.s. 100 g. Equal amt. of the compn. is mixed with 20 vol. hydrogen peroxide, the pH is adjusted to 3, then applied on the hair for 30 min. The hair is then rinsed, washed with shampoo, and dried to obtain a strong brown color.</p>				
ST	oxidn hair dye aminopyridine deriv polymer				
IT	Polysiloxanes, biological studies				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	<ul style="list-style-type: none"> <li>((aminoethyl)amino]propyl hydroxy, di-Me, trimethylsilyl; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)</li> </ul>				
IT	Polysiloxanes, biological studies				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	<ul style="list-style-type: none"> <li>(amino-contg.; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)</li> </ul>				
IT	Polyelectrolytes				
	<ul style="list-style-type: none"> <li>(amphoteric; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)</li> </ul>				
IT	Polyelectrolytes				
	<ul style="list-style-type: none"> <li>(cationic; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)</li> </ul>				
IT	Dyes				
	<ul style="list-style-type: none"> <li>(direct; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)</li> </ul>				
IT	Hair preparations				
	<ul style="list-style-type: none"> <li>(dyes, oxidative; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)</li> </ul>				
IT	Phenols, biological studies				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	<ul style="list-style-type: none"> <li>(naphthols; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)</li> </ul>				
IT	Salts, biological studies				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	<ul style="list-style-type: none"> <li>(of peroxy acids; oxidn. dyeing compn. for keratinous fibers</li> </ul>				

comprising diamino-pyridine deriv. and cationic or amphoteric polymer)

IT Antioxidants  
 Coupling agents  
 Oxidizing agents  
 Reducing agents  
 (oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)

IT Acrylic polymers, biological studies  
 Bromates  
 Enzymes, biological studies  
 Polyurethanes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)

IT Quaternary ammonium compounds, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (polymers; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)

IT 79-10-7D, Acrylic acid, derivs., polymers contg. 79-10-7D, Acrylic acid, polymers with quaternary ammonium derivs. 79-41-4D, Methacrylic acid, polymers with quaternary ammonium derivs. 95-55-6, o-Aminophenol 106-50-3, 1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine, biological studies 110-16-7D, Maleic acid, polymers with quaternary ammonium derivs. 112-02-7, Trimethylcetylammmonium chloride 123-30-8, p-Aminophenol 124-43-6 591-27-5 598-79-8D, alpha-Chloroacrylic acid, polymers with quaternary ammonium derivs. 7722-84-1, Hydrogen peroxide, biological studies 9003-39-8, Vinylpyrrolidone homopolymer 9003-99-0, Peroxidase 9036-19-5, Octoxynol 40 9055-15-6, Oxidoreductase 10124-68-2D, N-Octylacrylamide, polymers contg. 24171-27-5D, polymers contg. 24938-91-8, Trideceth 12 39365-90-7, Isolaureth 56216-28-5 66422-95-5 80498-15-3, Laccase 85679-78-3 117907-42-3 154245-39-3 367269-14-5  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Hoeffkes, H; US 4698065 A 1987 HCPLUS
- (2) Lang, G; US 4923977 A 1990 HCPLUS
- (3) Lang, G; US 5279616 A 1994 HCPLUS
- (4) Moeller, H; US 5743919 A 1998 HCPLUS
- (5) Wella Ag; DE 4018335 A 1991 HCPLUS

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and cationic or amphoteric polymer)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 8 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 2001:780634 HCPLUS

DN 135:335000  
 TI Oxidation dyeing composition for keratinous fibers comprising a  
     3,5-diamino-pyridine derivative and a particular thickening polymer  
 IN Audouset, Marie-pascale  
 PA L'oreal, Fr.  
 SO PCT Int. Appl., 40 pp.  
     CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001078668	A1	20011025	WO 2001-FR846	20010321
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2807649	A1	20011019	FR 2000-4721	20000412
PRAI	FR 2000-4721	A	20000412		
OS	MARPAT 135:335000				
AB	The invention concerns an oxidn. dyeing compn. for keratinous fibers, in particular human keratinous fibers such as hair, comprising, in a medium suitable for dyeing, at least a coupling agent selected among 3,5-diamino-pyridine derivs. and their addn. salts with an acid, at least an oxidn. base, and a particular thickening polymer. The invention also concerns dyeing methods and devices using said compn. An oxidative hair dye contained 2,6-dimethoxy-3,5-diamino-pyridine hydrochloride 0.363, p-phenylenediamine 0.324, 2,4-diamino-1-(.beta.-hydroxy-ethoxy)benzene 0.361, Aculyn-44 4, excipients and water q.s. 100 g. Equal amt. of the compn. is mixed with 20 vol. hydrogen peroxide, the pH is adjusted to 3, then applied on the hair for 30 min. The hair is then rinsed, washed with shampoo, and dried to obtain a natural brown color.				
ST	oxidn hair dye aminopyridine deriv thickening polymer				
IT	Surfactants (amphoteric; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and particular thickening polymer)				
IT	Polyelectrolytes Surfactants (anionic; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and particular thickening polymer)				
IT	Polyelectrolytes Surfactants (cationic; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and particular thickening polymer)				
IT	Hair preparations (dyes, oxidative; oxidn. dyeing compn. for keratinous fibers comprising diamino-pyridine deriv. and particular thickening polymer)				
IT	Phenols, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (naphthols; oxidn. dyeing compn. for keratinous fibers)				

comprising diamino-pyridine deriv. and particular thickening polymer)  
IT Salts, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(of peroxy acids; oxidn. dyeing compn. for keratinous fibers  
comprising diamino-pyridine deriv. and particular thickening polymer)  
IT Coupling agents  
Thickening agents  
(oxidn. dyeing compn. for keratinous fibers comprising  
diamino-pyridine deriv. and particular thickening polymer)  
IT Bromates  
Enzymes, biological studies  
Polymers, biological studies  
Polysaccharides, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidn. dyeing compn. for keratinous fibers comprising  
diamino-pyridine deriv. and particular thickening polymer)  
IT 79-10-7, Acrylic acid, biological studies 79-10-7D, Acrylic acid,  
polymers with alkyl acrylates 95-55-6, o-Aminophenol 106-50-3,  
p-Phenylenediamine, biological studies 123-30-8, p-Aminophenol  
124-43-6 591-27-5 7722-84-1, Hydrogen peroxide, biological studies  
9000-01-5, Gumarabic 9000-07-1, Carrageenan 9000-28-6, Ghatti gum  
9000-30-0, Guar gum 9000-36-6, Karaya gum 9000-40-2, Carob gum  
9000-65-1, Tragacanth gum 9000-69-5, Pectins 9002-18-0, Agar  
9003-01-4, PolyAcrylic acid 9003-99-0, Peroxidase 9004-64-2,  
Hydroxypropyl cellulose 9005-32-7, Alginic acid 9055-15-6,  
**Oxidoreductase** 11138-66-2, Xanthan 26100-47-0,  
Acrylamide-Ammonium acrylate copolymer 28214-57-5, Ammonium acrylate  
homopolymer 39421-75-5, Jaguar hp105 39464-87-4, Scleroglucan  
40623-73-2 54381-16-7 56216-28-5 66422-95-5 85679-78-3  
117907-42-3 138757-67-2, Carbopol 980- 160950-38-9 193487-42-2,  
Aculyn-44 367269-14-5  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidn. dyeing compn. for keratinous  
fibers comprising diamino-pyridine deriv. and particular thickening  
polymer)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Hoeffkes, H; US 4698065 A 1987 HCPLUS
- (2) Lang, G; US 4923977 A 1990 HCPLUS
- (3) Lang, G; US 5279616 A 1994 HCPLUS
- (4) Moeller, H; US 5743919 A 1998 HCPLUS
- (5) Wella Ag; DE 4018335 A 1991 HCPLUS

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidn. dyeing compn. for keratinous  
fibers comprising diamino-pyridine deriv. and particular thickening  
polymer)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 9 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:780402 HCPLUS

DN 135:322520

TI Oxidative hair dye composition containing 1-(4-aminophenyl)-

pyrrolidine and an enzymatic oxidation system  
 IN Kravtchenko, Sylvain; Plos, Gregory  
 PA L'Oreal, Fr.  
 SO Eur. Pat. Appl., 31 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1147763	A1	20011024	EP 2001-400882	20010405
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2807653	A1	20011019	FR 2000-4994	20000418
	JP 2001354533	A2	20011225	JP 2001-120415	20010418
	US 2002020029	A1	20020221	US 2001-836411	20010418
PRAI	FR 2000-4994	A	20000418		
OS	MARPAT 135:322520				
AB	An oxidative hair dye compn. contg. 1-(4-aminophenyl)-pyrrolidine and an enzymic oxidn. system comprising an oxidoreductase or peroxidase enzyme is disclosed. A hair dye compn. contained uricas 10x103 units, 1-(4-aminophenyl)-pyrrolidine dihydrochloride 0.705, 1-.beta.- hydroxyethoxy-2,4-diaminobenzene dihydrochloride 0.723, N-acetyl-L-cysteine 0.10, uric acid 1, polyglycerol monooleate 1, Aculyn-22 0.75 g, 2-amino-2-methyl-1-propanol q.s. pH = 9.5, and water q.s. 100 g.				
ST	oxidative hair dye aminophenyl pyrrolidine enzyme				
IT	Dyes (acid; oxidative hair dye compn. contg. 1-(4-aminophenyl)- pyrrolidine and enzymic oxidn. system)				
IT	Dyes (cationic; oxidative hair dye compn. contg. 1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)				
IT	Hair preparations (creams; oxidative hair dye compn. contg. 1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)				
IT	Hair preparations (dyes, oxidative; oxidative hair dye compn. contg. 1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)				
IT	Hair preparations (gels; oxidative hair dye compn. contg. 1-(4-aminophenyl)- pyrrolidine and enzymic oxidn. system)				
IT	Agaricus bisporus Anacardiaceae Aspergillus nidulans Avocado (Persea americana) Banana (Musa) Botrytis cinerea Carrot Catharanthus roseus Ceriporiopsis subvermispora Cerrena unicolor Chaetomium thermophilum Cladosporium cladosporioides Coffee (Coffea) Coprinus cinereus Dichomitus squalens				

Fomes fomentarius  
Ganoderma lucidum  
Ginkgo biloba  
Glomerella cingulata  
Heterobasidion annosum  
Horse chestnut (*Aesculus*)  
Iris (plant)  
Lacquer tree  
Lactarius piperatus  
Maple (*Acer pseudoplatanus*)  
Monotropa hypopitys  
Myceliophthora thermophila  
Neurospora crassa  
Panaeolus papilionaceus  
Panaeolus sphinctrinus  
Peach (*Prunus persica*)  
Phellinus noxius  
Pistacia palaestina  
Pleurotus ostreatus  
Podocarpaceae  
Podospora anserina  
Polyporus pinsitus  
Potato (*Solanum tuberosum*)  
Pyricularia oryzae  
Rhizoctonia solani  
Rigidoporus lignosus  
Rosemary  
Russula delica  
Schizophyllum commune  
Scytalidium  
Thelephora terrestris  
Trametes hirsuta  
Trametes versicolor  
Vinca minor  
    (laccase obtained from; oxidative hair dye compn. contg.  
    1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)  
IT Phenols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
    (naphthols; oxidative hair dye compn. contg.  
    1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)  
IT Acetobacter pasteurianus  
Anthraquinone dyes  
Arthromyces ramosus  
Azo dyes  
Enterococcus faecalis  
Microorganism  
    (oxidative hair dye compn. contg. 1-(4-aminophenyl)-  
    pyrrolidine and enzymic oxidn. system)  
IT Enzymes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
    (oxidative hair dye compn. contg. 1-(4-aminophenyl)-  
    pyrrolidine and enzymic oxidn. system)  
IT Apple  
Apricot (*Prunus armeniaca*)  
Barley  
Beet (*Beta vulgaris rapacea*)  
Cabbage  
Corn

Cotton  
Garlic (*Allium sativum*)  
Mint  
Radish (*Raphanus sativus*)  
Raisin  
Rhubarb (*Rheum*)  
Soybean (*Glycine max*)  
Spinach (*Spinacia oleracea*)  
(peroxidase obtained from; oxidative hair dye compn. contg.  
1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)

IT      Albumins, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(serum; oxidative hair dye compn. contg. 1-(4-aminophenyl)-  
pyrrolidine and enzymic oxidn. system)  
IT      89-25-8    90-15-3, .alpha.-Naphthol    95-88-5, 4-Chloro  
1,3-dihydroxybenzene    108-26-9    108-45-2, 1,3-Diaminobenzene, biological  
studies    108-46-3, 1,3-Dihydroxybenzene, biological studies    533-31-3,  
Sesamol    591-27-5, 3 Aminophenol    608-25-3, 1,3-Dihydroxy-2-  
methylbenzene    2380-86-1, 6-Hydroxyindole    2380-94-1, 4-Hydroxyindole  
2835-95-2, 2 Methyl 5 aminophenol    4664-16-8    4770-37-0,  
6-Hydroxyindoline    7556-37-8 9001-37-0, Glucose  
oxidase    9001-96-1, Pyruvate oxidase 9002-10-2,  
Tyrosinase 9002-12-4, Uricase    9003-99-0, Peroxidase  
9013-66-5, Glutathione peroxidase    9028-67-5, Choline oxidase  
9028-72-2, Lactate oxidase    9029-22-5, Sarcosine oxidase  
9029-51-0    9029-52-1, Fatty acid peroxidase    9029-53-2, Cytochrome c  
peroxidase    9031-28-1, Iodide peroxidase    9032-24-0, NADH peroxidase  
9055-15-6, Oxidoreductase    9055-20-3, Chloride  
peroxidase    9082-61-5, Aminoacid oxidase    16867-03-1    30569-52-9  
54381-16-7    55302-96-0    66422-95-5    69151-32-2    69669-73-4,  
Glycerol oxidase    70643-19-5    72906-87-7    80498-15-3, Laccase  
80619-01-8, Bilirubin oxidase    81892-72-0    83763-47-7    93846-05-0  
163260-77-3  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye compn. contg.  
1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)

RE.CNT 4      THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
(1) Bristol-Myers Squibb Company; US 5851237 A 1998 HCPLUS  
(2) Bristol-Myers Squibb Company; EP 0891765 A 1999 HCPLUS  
(3) Kyowa Hakko Kogyo Kk Et Al; EP 0310675 A 1989 HCPLUS  
(4) Oreal, L; FR 2773478 A 1999 HCPLUS

IT      9001-37-0, Glucose oxidase 9002-10-2,  
Tyrosinase 9002-12-4, Uricase 9055-15-6,  
Oxidoreductase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye compn. contg.  
1-(4-aminophenyl)-pyrrolidine and enzymic oxidn. system)

RN      9001-37-0    HCPLUS  
CN      Oxidase, glucose (9CI)    (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN      9002-10-2    HCPLUS  
CN      Oxygenase, monophenol mono- (9CI)    (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN      9002-12-4    HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 10 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:729700 HCPLUS

DN 135:277747

TI Oxidative hair dyes containing pyridine derivatives and enzymic oxidants

IN Plos, Gregory

PA L'oreal, Fr.

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA French

IC ICM A61K007-13

CC 62-4 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1138318	A2	20011004	EP 2001-400746	20010322
	EP 1138318	A3	20011121		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2806908	A1	20011005	FR 2000-4061	20000330
	JP 2001278755	A2	20011010	JP 2001-97004	20010329
	BR 2001001699	A	20011204	BR 2001-1699	20010329
	CN 1324608	A	20011205	CN 2001-112304	20010329
	US 2002013973	A1	20020207	US 2001-820016	20010329

PRAI FR 2000-4061 A 20000330

OS MARPAT 135:277747

AB The title hair dyes are claimed. An oxidative hair dye compn. contained 2,6-dimethoxy-3,5-diaminopyridine dihydrochloride 0.636, paraphenylenediamine 0.324, laccase 5, water and excipients q.s. 100 g. The compn. is applied on the hair for 30 min, the hair is then rinsed, washed with shampoo, and dried to obtain a dark blue color.

ST oxidative hair dye pyridine enzymic oxidant

IT Hair preparations

(dyes, oxidative; oxidative hair dyes contg. pyridine derivs. and enzymic oxidants)

IT Oxidizing agents

(oxidative hair dyes contg. pyridine derivs. and enzymic oxidants)

IT Enzymes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dyes contg. pyridine derivs. and enzymic oxidants)

IT 89-25-8 90-15-3, .alpha.-Naphthol 92-65-9 93-05-0 95-55-6, 2  
aminophenol 95-70-5 95-88-5, 4-Chloro-1,3-dihydroxybenzene 99-98-9  
101-54-2 106-50-3, p-Phenylenediamine, biological studies 108-26-9  
108-45-2, 1,3-Diaminobenzene, biological studies 108-46-3,  
1,3-Dihydroxybenzene, biological studies 110-86-1D, Pyridine, derivs.  
123-30-8, p-Aminophenol 148-71-0 289-95-2D, Pyrimidine, derivs.  
399-95-1, 4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluoro phenol  
533-31-3, Sesamol 537-65-5 591-27-5, 3 aminophenol 608-25-3,  
1,3-Dihydroxy-2-methyl benzene 615-66-7 1630-11-1 2359-52-6  
2359-53-7 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole  
2835-95-2, 2-Methyl-5-Aminophenol 2835-96-3, 4-Amino-2-methyl phenol

2835-98-5, 2 amino5-methylphenol 2835-99-6, 4-Amino-3-methyl phenol  
 4664-16-8, 2, 6-Dihydroxy-4-methyl pyridine 4770-37-0, 6-Hydroxyindoline  
 5306-96-7 5862-80-6 6393-01-7 6604-51-9 7218-02-2 7469-77-4,  
 2-Methyl-1-naphthol 7556-37-8 7575-35-1 9001-05-2, Catalase  
 9001-37-0, Glucose oxidase 9001-96-1, Pyruvate  
 oxidase 9002-10-2, Tyrosinase 9002-12-4, Uricase  
 9003-99-0, Peroxidase 9013-66-5, Glutathione peroxidase 9028-72-2,  
 Lactate oxidase 9029-51-0 9029-52-1, Fatty acid peroxidase  
 9029-53-2, Cytochrome peroxidase 9031-28-1, Iodide peroxidase  
 9032-24-0, NADH peroxidase 9055-20-3, Chloride peroxidase 14791-78-7  
 16867-03-1, 2-Amino-3-hydroxypyridine 17672-22-9, 2 amino 6-methylphenol  
 28020-38-4 29785-47-5, 4-Amino-2-methoxymethyl phenol 30569-52-9,  
 3, 6-Dimethyl-pyrazolo[3, 2-c]1, 2, 4-triazole 37250-80-9, Pyranose oxidase  
 39455-90-8D, Pyrazolone, derivs. 55302-96-0 56216-28-5 63969-43-7  
 66566-48-1 69669-73-4, Glycerol oxidase 70643-19-5  
 72906-87-7, Ascorbate peroxidase 73793-80-3 79352-72-0,  
 4-Amino-2-aminomethyl phenol 80467-77-2 80498-15-3, Laccase  
 81892-72-0 83763-47-7 85679-78-3 90817-34-8 93841-24-8  
 94166-62-8 97902-52-8 104333-09-7, 4-Amino-2-hydroxymethyl phenol  
 105293-89-8 105607-68-9 110952-46-0 126335-43-1 129697-50-3,  
 5-acetamido 2 amino phenol 130582-53-5 135855-34-4 135855-35-5  
 168202-61-7, 4-Amino-3-hydroxymethyl phenol 207568-58-9 217318-23-5  
 221110-58-3 221110-59-4 232284-14-9 362612-41-7 362612-43-9  
 362612-44-0 362612-48-4

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidative hair dyes contg. pyridine derivs. and  
enzymic oxidants)

IT 9001-37-0, Glucose oxidase 9002-10-2,  
Tyrosinase 9002-12-4, Uricase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidative hair dyes contg. pyridine derivs. and  
enzymic oxidants)

RN 9001-37-0 HCAPLUS  
CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-10-2 HCAPLUS  
CN Oxygenase, monophenol mono- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCAPLUS  
CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 11 OF 53 HCAPLUS COPYRIGHT 2002 ACS  
AN 2001:703875 HCAPLUS  
DN 135:231479  
TI Composition for oxidative dyeing of keratinic fibers comprising  
two special quaternary polyammonium compounds  
IN Bebot, Cecile; Rondeau, Christine; Cottard, Francois; Boudy, Francoise  
PA L'Oreal, Fr.  
SO Fr. Demande, 42 pp.  
CODEN: FRXXBL  
DT Patent  
LA French  
IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)

## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2803198	A1	20010706	FR 1999-16764	19991230
	EP 1142553	A1	20011010	EP 2000-403474	20001211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 2000006554	A	20010731	BR 2000-6554	20001228
	CN 1303663	A	20010718	CN 2000-131089	20001229
	US 2002013972	A1	20020207	US 2001-750717	20010102
	JP 2001206826	A2	20010731	JP 2001-252	20010104
PRAI	FR 1999-16764	A	19991230		
OS	MARPAT 135:231479				
AB	Oxidative hair dye preps. contg. a dialkyldiallylammonium cyclohomopolymer and a quaternary ammonium polymer are claimed. An oxidant compn. contained fatty alc. 2.3, ethoxylated fatty alc. 0.6, fatty amide 0.9, glycerin 0.5, hydrogen peroxide 7.5, fragrance q.s., and water q.s. 100 g. A hair dye compn. contained Nafol 20-22 3, Nafolox 20-22 1.35, ethoxylated stearyl alc. 6, oleic acid 2.6, glycol distearate 2, propylene glycol 5, copra acid monoisopropanolamide 2, Aculyn-44 1.4, crosslinked polyacrylic acid 0.6, cationic polymers 3, Merquat-100 0.4, reducing agent 0.7, sequestering agents 0.2, 1,3-dihydroxybenzene 0.6, 1,4-diaminobenzene 0.5, 1-hydroxy-3-aminobenzene 0.1, 1-hydroxy-2-aminobenzene 0.05, 1-hydroxy-4-aminobenzene 0.09, 6-hydroxybenzomorpholine 0.017, 1.-beta.-hydroxyethoxy-2,4-diaminobenzene dihydrochloride 0.039, propylene glycol monobutyl ether 2.5, monoethanolamine 1.06, 20.5% ammonia 11.1, and water q.s. 100 g. One part of the dye compn. is mixed with 1.5 parts of oxidant compn. and applied on a 90% white hair for 30 min., the hair is then rinsed with water, washed with shampoo, rinsed and dried to obtain a clear chestnut color.				
ST	oxidative hair dye alkyldiallylammonium cyclohomopolymer; quaternary ammonium polymer oxidative hair dye				
IT	Bromates				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(alkali metal salts; oxidative hair dye prep. comprising dialkyldiallylammonium cyclohomopolymer and quaternary ammonium polymer)				
IT	Surfactants				
	(amphoteric; oxidative hair dye prep. comprising dialkyldiallylammonium cyclohomopolymer and quaternary ammonium polymer)				
IT	Polyelectrolytes				
	<b>Surfactants</b>				
	(anionic; oxidative hair dye prep. comprising dialkyldiallylammonium cyclohomopolymer and quaternary ammonium polymer)				
IT	Polyelectrolytes				
	<b>Surfactants</b>				
	(cationic; oxidative hair dye prep. comprising dialkyldiallylammonium cyclohomopolymer and quaternary ammonium polymer)				
IT	Dyes				
	(direct; oxidative hair dye prep. comprising dialkyldiallylammonium cyclohomopolymer and quaternary ammonium polymer)				
IT	Hair preparations				
	(dyes, oxidative; oxidative hair dye prep. comprising dialkyldiallylammonium cyclohomopolymer and quaternary ammonium polymer)				
IT	Alcohols, biological studies				

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(fatty; oxidative hair dye prepn. comprising dialkyldiallylammonium  
cyclohomopolymer and quaternary ammonium polymer)

IT Surfactants  
(nonionic; oxidative hair dye prepn. comprising dialkyldiallylammonium  
cyclohomopolymer and quaternary ammonium polymer)

IT Salts, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(of peroxy acids; oxidative hair dye prepn. comprising  
dialkyldiallylammonium cyclohomopolymer and quaternary ammonium  
polymer)

IT Coupling agents  
Oxidizing agents  
Reducing agents  
Surfactants  
Thickening agents  
(oxidative hair dye prepn. comprising dialkyldiallylammonium  
cyclohomopolymer and quaternary ammonium polymer)

IT Enzymes, biological studies  
Polymers, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye prepn. comprising dialkyldiallylammonium  
cyclohomopolymer and quaternary ammonium polymer)

IT Quaternary ammonium compounds, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polymers; oxidative hair dye prepn. comprising dialkyldiallylammonium  
cyclohomopolymer and quaternary ammonium polymer)

IT Fats and Glyceridic oils, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(vegetable; oxidative hair dye prepn. comprising dialkyldiallylammonium  
cyclohomopolymer and quaternary ammonium polymer)

IT 79-10-7D, Acrylic acid, polymers with dimethyldiallylammonium salts  
108-45-2D, 1, 3-Benzenediamine, derivs. 110-86-1D, Pyridine, derivs.  
124-43-6 288-13-1D, Pyrazole, derivs. 289-95-2D, Pyrimidine, derivs.  
591-27-5D, derivs. 7722-84-1, Hydrogen peroxide, biological studies  
9000-30-0D, Guar gum, derivs. 9003-99-0, Peroxidase 9004-34-6D,  
Cellulose, derivs. 9055-15-6, Oxidoreductase  
17126-47-5D, Ferrocyanic acid, alkali metal salts 26062-79-3,  
Merquat-100 39421-75-5, Hydroxypropyl guar 80498-15-3, Laccase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye prepn. comprising  
dialkyldiallylammonium cyclohomopolymer and quaternary ammonium  
polymer)

IT 9055-15-6, Oxidoreductase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye prepn. comprising  
dialkyldiallylammonium cyclohomopolymer and quaternary ammonium  
polymer)

RN 9055-15-6 HCPLUS  
CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 12 OF 53 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:703874 HCAPLUS

DN 135:261998

TI Composition for oxidative dyeing of keratinic fibers comprising a C20 fatty alcohol and a nonionic oxyalkylene surfactant with HLB greater than 5

IN Cottard, Francois; Rondeau, Christine

PA L'Oreal, Fr.

SO Fr. Demande, 64 pp.

CODEN: FRXXBL

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2803196	A1	20010706	FR 1999-16760	19991230
	EP 1142557	A1	20011010	EP 2000-403473	20001211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 2000006584	A	20010731	BR 2000-6584	20001226
	CN 1308931	A	20010822	CN 2000-137370	20001229
	US 2002010970	A1	20020131	US 2001-750757	20010102
	JP 2001206829	A2	20010731	JP 2001-250	20010104
PRAI	FR 1999-16760	A	19991230		

OS MARPAT 135:261998

AB The title oxidative hair dye prepns. are claimed. An oxidant compn. contained fatty alc. 2.3, ethoxylated fatty alc. 0.6, fatty amide 0.9, glycerin 0.5, hydrogen peroxide 7.5, fragrance q.s., and water q.s. 100 g. A hair dye compn. contained Nafol 20-22 3, Nafolox 20-22 1.35, ethoxylated stearyl alc. 6, oleic acid 2.6, glycol distearate 2, propylene glycol 5, copra acid monoisopropanolamide 2, Aculyn-44 1.4, crosslinked polyacrylic acid 0.6, cationic polymers 3, Merquat-100 0.4, reducing agent 0.7, sequestering agents 0.2, 1,3-dihydroxybenzene 0.6, 1,4-diaminobenzene 0.5, 1-hydroxy-3-aminobenzene 0.1, 1-hydroxy-2-aminobenzene 0.05, 1-hydroxy-4-aminobenzene 0.09, 6-hydroxybenzomorpholine 0.017, 1.-beta.-hydroxyethoxy-2,4-diaminobenzene dihydrochloride 0.039, propylene glycol monobutyl ether 2.5, monoethanolamine 1.06, 20.5% ammonia 11.1, and water q.s. 100 g. One part of the dye compn. is mixed with 1.5 parts of oxidant compn. and applied on a 90% white hair for 30 min., the hair is then rinsed with water, washed with shampoo, rinsed and dried to obtain a clear chestnut color.

ST oxidative hair dye fatty alc surfactant

IT Alcohols, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(C18-24; oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

IT Polyurethanes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

(Uses)

(acrylic; oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

IT Bromates

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

(Uses)

(alkali metal salts; oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

IT Phenols, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(alkyl, ethoxylated; oxidative hair dye prepn. comprising fatty alc.  
and nonionic oxyalkylene surfactant)

IT Surfactants  
(amphoteric; oxidative hair dye prepn. comprising fatty alc. and  
nonionic oxyalkylene surfactant)

IT Polyelectrolytes  
**Surfactants**  
(anionic; oxidative hair dye prepn. comprising fatty alc. and  
nonionic oxyalkylene surfactant)

IT Polyelectrolytes  
Surfactants  
(cationic; oxidative hair dye prepn. comprising fatty alc. and nonionic  
oxyalkylene surfactant)

IT Hair preparations  
(dyes, oxidative; oxidative hair dye prepn. comprising fatty alc. and  
nonionic oxyalkylene surfactant)

IT Alcohols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(fatty, ethoxylated; oxidative hair dye prepn. comprising fatty alc.  
and nonionic oxyalkylene surfactant)

IT Surfactants  
(nonionic; oxidative hair dye prepn. comprising fatty alc. and nonionic  
oxyalkylene surfactant)

IT Salts, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(of peroxy acids; oxidative hair dye prepn. comprising fatty alc. and  
nonionic oxyalkylene surfactant)

IT Coupling agents  
Oxidizing agents  
Reducing agents  
Surfactants  
Thickening agents  
(oxidative hair dye prepn. comprising fatty alc. and nonionic  
oxyalkylene surfactant)

IT Acrylic polymers, biological studies  
Enzymes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye prepn. comprising fatty alc. and nonionic  
oxyalkylene surfactant)

IT Carboxylic acids, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polycarboxylic; oxidative hair dye prepn. comprising fatty alc. and  
nonionic oxyalkylene surfactant)

IT Polyurethanes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polyether-; oxidative hair dye prepn. comprising fatty alc. and  
nonionic oxyalkylene surfactant)

IT Alkenes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polymers with maleic anhydride and alkyl maleates; oxidative hair dye  
prepn. comprising fatty alc. and nonionic oxyalkylene  
surfactant)

IT Quaternary ammonium compounds, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (polymers; oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

IT Acrylic polymers, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (polyurethane-; oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

IT Fats and Glyceridic oils, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (vegetable; oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

IT 79-10-7D, Acrylic acid, polymers with dimethyldiallylammonium salts  
 79-10-7D, Acrylic acid, polymers with dimethyldiallylammonium salts  
 108-45-2D, 1,3-Benzenediamine, derivs. 110-16-7D, Maleic acid, alkyl derivs., polymers with maleic anhydride and olefins 110-86-1D, Pyridine, derivs. 124-43-6 288-13-1D, Pyrazole, derivs. 289-95-2D, Pyrimidine, derivs. 591-27-5D, derivs. 629-98-1, Erucic alcohol 661-19-8, Behenic alcohol 7722-84-1, Hydrogen peroxide, biological studies 9000-30-0D, Guar gum, derivs. 9003-99-0, Peroxidase 9004-34-6D, Cellulose, derivs. 9005-00-9, Ethoxylated stearyl alcohol 9055-15-6, Oxidoreductase 17126-47-5D, Ferrocyanic acid, alkali metal salts 26062-79-3, Merquat-100 39421-75-5, Hydroxypropyl guar 48042-45-1D, salts, polymers with acrylic acid 80498-15-3, Laccase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

IT 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dye prepn. comprising fatty alc. and nonionic oxyalkylene surfactant)

RN 9055-15-6 HCPLUS  
 CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 13 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 2001:703873 HCPLUS  
 DN 135:231478  
 TI Composition for oxidation dyeing of keratinic fibers, containing a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alcohol  
 IN Cottard, Francois; Rondeau, Christine  
 PA L'Oreal, Fr.  
 SO Fr. Demande, 58 pp.  
 CODEN: FRXXBL  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
PI FR 2803195	A1	20010706	FR 1999-16757	19991230

EP 1142556	A1	20011010	EP 2000-403471	20001211
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
BR 2000006588	A	20010731	BR 2000-6588	20001222
CN 1303666	A	20010718	CN 2000-137270	20001229
US 2001023514	A1	20010927	US 2001-750716	20010102
JP 2001206828	A2	20010731	JP 2001-249	20010104
PRAI FR 1999-16757	A	19991230		
OS MARPAT 135:231478				
AB	<p>The title oxidative hair dye preps. are claimed. An oxidant compn. contained fatty alc. 2.3, ethoxylated fatty alc. 0.6, fatty amide 0.9, glycerin 0.5, hydrogen peroxide 7.5, fragrance q.s., and water q.s. 100 g. A hair dye compn. contained Nafol 20-22 3, a mixt. of polyglycerol C18-24 alcs. 1.35, cetearyl alc. comprising 2 mol of glycerol 4, cetearyl alc. comprising 6 mol of glycerol 2, oleic acid 2.6, glycol distearate 2, propylene glycol 5, copra acid monoisopropanolamide 2, Aclyn-44 1.4, crosslinked polyacrylic acid 0.6, cationic polymers 3, Merquat-100 0.4, reducing agent 0.7, sequestering agents 0.2, 1,3-dihydroxybenzene 0.6, 1,4-diaminobenzene 0.5, 1-hydroxy-3-aminobenzene 0.1, 1-hydroxy-2-aminobenzene 0.05, 1-hydroxy-4-aminobenzene 0.09, 6-hydroxybenzomorpholine 0.017, 1-.beta.-hydroxyethoxy-2,4-diaminobenzene dihydrochloride 0.039, propylene glycol monobutyl ether 2.5, monoethanolamine 1.06, 20.5% ammonia 11.1, and water q.s. 100 g. One part of the dye compn. is mixed with 1.5 parts of oxidant compn. and applied on a 90% white hair for 30 min., the hair is then rinsed with water, washed with shampoo, rinsed and dried to obtain a clear chestnut color.</p>			
ST	oxidative hair dye thickening polymer; polyglycerol fatty alc oxidative hair dye			
IT	Alcohols, biological studies			
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)			
	(C16-18, polyglycerol derivs.; oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)			
IT	Alcohols, biological studies			
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)			
	(C18-24; oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)			
IT	Polyurethanes, biological studies			
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)			
	(acrylic; oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)			
IT	Bromates			
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)			
	(alkali metal salts; oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)			
IT	Surfactants			
	(amphoteric; oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)			
IT	Polyelectrolytes			
	<b>Surfactants</b>			
	(anionic; oxidative hair dye prepn. contg. a thickening			

polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Polyelectrolytes  
Surfactants  
(cationic; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Hair preparations  
(dyes, oxidative; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Alcohols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(fatty, polyglycerol derivs.; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Surfactants  
(nonionic; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Salts, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(of peroxy acids; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Coupling agents  
Oxidizing agents  
Reducing agents  
Surfactants  
Thickening agents  
(oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Acrylic polymers, biological studies  
Enzymes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Polyurethanes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polyether-; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Alkenes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polymers with maleic anhydride and alkyl maleates; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Quaternary ammonium compounds, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polymers; oxidative hair dye prepns. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT Acrylic polymers, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(polyurethane-; oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT 108-31-6D, Maleic anhydride, polymers with olefins and alkyl maleates  
 108-45-2D, 1,3-Benzenediamine, derivs. 110-16-7D, Maleic acid, alkyl derivs., polymers with maleic anhydride and olefins 110-86-1D, Pyridine, derivs. 124-43-6 288-13-1D, Pyrazole, derivs. 289-95-2D, Pyrimidine, derivs. 591-27-5D, derivs. 7722-84-1, Hydrogen peroxide, biological studies 9000-30-0D, Guar gum, derivs. 9003-99-0, Peroxidase 9004-34-6D, Cellulose, derivs. 9055-15-6, Oxidoreductase 17126-47-5D, Ferrocyanic acid, alkali metal salts 25618-55-7D, Polyglycerol, fatty alc. derivs. 26062-79-3, Merquat-100 39421-75-5, Hydroxypropyl guar 80498-15-3, Laccase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(oxidative hair dye prepn. contg. a thickening polymer comprising at least one fatty chain and a mono- or polyglycerol fatty alc.)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 14 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:703872 HCPLUS

DN 135:231477

TI Compositions for oxidative dyeing of keratinic fibers comprising a polymer with an alkyl chain and a C20 fatty alcohol

IN Cottard, Francois; Rondeau, Christine

PA L'Oreal, Fr.

SO Fr. Demande, 58 pp.

CODEN: FRXXBL

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	FR 2803197	A1	20010706	FR 1999-16762	19991230
	EP 1142555	A1	20011010	EP 2000-403470	20001211
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 2000006551	A	20010731	BR 2000-6551	20001227
	CN 1303665	A	20010718	CN 2000-137256	20001229
	US 2001023515	A1	20010927	US 2001-750718	20010102
	JP 2001220330	A2	20010814	JP 2001-251	20010104
PRAI	FR 1999-16762	A	19991230		
OS	MARPAT 135:231477				
AB	The title oxidative hair dye preps. are claimed. An oxidant compn. contained fatty alc. 2.3, ethoxylated fatty alc. 0.6, fatty amide 0.9, glycerin 0.5, hydrogen peroxide 7.5, fragrance q.s., and water q.s. 100 g. A hair dye compn. contained Nafol 20-22 3, Nafolox				

20-22 1.35, ethoxylated stearyl alc. 6, oleic acid 2.6, glycol distearate 2, propylene glycol 5, copra acid monoisopropanolamide 2, Aculyn-44 1.4, crosslinked polyacrylic acid 0.6, cationic polymers 3, Merquat-100 0.4, reducing agent 0.7, sequestering agents 0.2, 1,3-dihydroxybenzene 0.6, 1,4-diaminobenzene 0.5, 1-hydroxy-3-aminobenzene 0.1, 1-hydroxy-2-aminobenzene 0.05, 1-hydroxy-4-aminobenzene 0.09, 6-hydroxybenzomorpholine 0.017, 1-.beta.-hydroxyethoxy-2,4-diaminobenzene dihydrochloride 0.039, propylene glycol monobutyl ether 2.5, monoethanolamine 1.06, 20.5% ammonia 11.1, and water q.s. 100 g. One part of the dye compn. is mixed with 1.5 parts of oxidant compn. and applied on a 90% white hair for 30 min., the hair is then rinsed with water, washed with shampoo, rinsed and dried to obtain a clear chestnut color.

- ST oxidative hair dye polymer fatty alc
- IT Alcohols, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (C18-24; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Polyurethanes, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (acrylic; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Bromates
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (alkali metal salts; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Phenols, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (alkyl, ethoxylated; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Surfactants
  - (amphoteric; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Polyelectrolytes
  - Surfactants
    - (anionic; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Polyelectrolytes
  - Surfactants
    - (cationic; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Hair preparations
  - (dyes, oxidative; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Alcohols, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (fatty, ethoxylated; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Surfactants
  - (nonionic; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Salts, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (of peroxy acids; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)

- IT Coupling agents
  - Oxidizing agents
  - Reducing agents
  - Surfactants
  - Thickening agents
    - (oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Acrylic polymers, biological studies
  - Enzymes, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Carboxylic acids, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (polycarboxylic; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Polyurethanes, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (polyether-; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Alkenes, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (polymers with maleic anhydride and alkyl maleates; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Quaternary ammonium compounds, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (polymers; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Acrylic polymers, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (polyurethane-; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT Fats and Glyceridic oils, biological studies
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (vegetable; oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT 79-10-7D, Acrylic acid, polymers with dimethyldiallylammonium salts 108-45-2D, 1,3-Benzenediamine, derivs. 110-16-7D, Maleic acid, alkyl derivs., polymers with maleic anhydride and olefins 110-86-1D, Pyridine, derivs. 124-43-6 288-13-1D, Pyrazole, derivs. 289-95-2D, Pyrimidine, derivs. 591-27-5D, derivs. 629-98-1, Erucic alcohol 661-19-8, Behenic alcohol 7722-84-1, Hydrogen peroxide, biological studies 9000-30-0D, Guar gum, derivs. 9003-99-0, Peroxidase 9004-34-6D, Cellulose, derivs. 9005-00-9, Ethoxylated stearyl alcohol 9055-15-6, Oxidoreductase 17126-47-5D, Ferrocyanic acid, alkali metal salts 26062-79-3, Merquat-100 39421-75-5, Hydroxypropyl guar 48042-45-1D, salts, polymers with acrylic acid 80498-15-3, Laccase
  - RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
    - (oxidative hair dye prepn. comprising polymer with alkyl chain and fatty alc.)
- IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidative hair dye prepns. comprising polymer with  
alkyl chain and fatty alc.)

RN 9055-15-6 HCAPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 15 OF 53 HCAPLUS COPYRIGHT 2002 ACS

AN 2001:676561 HCAPLUS

DN 135:246997

TI Oxidation dyeing composition for keratinous fibers with a particular paraphenylenediamine derivative and a particular direct dyeing agent

IN Lang, Gerard

PA L'Oreal, Fr.

SO PCT Int. Appl., 49 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001066068	A1	20010913	WO 2001-FR644	20010305
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2805741	A1	20010907	FR 2000-2862	20000306
PRAI	FR 2000-2862	A	20000306		
OS	MARPAT	135:246997			
AB	The invention concerns an oxidn. dyeing compn. for keratinous fibers, and in particular human keratinous fibers such as hair comprising, in a medium suitable for dyeing, at least an oxidn. base selected among certain substituted paraphenylenediamine derivs. and their addn. salts with an acid, and at least a synthetic direct dyeing agent selected among the azo, quinoid, triarylmethane, indoamino, azine dyes and/or a natural dye. The invention also concerns a dyeing method using said compn. A hair dye compn. contained 1-(4'-amino-3'-methylphenyl)-4-hydroxy-2-methyl-pyrrolidine dihydrochloride 0.837, 2,4-diamino-1-(.beta.-hydroxyethoxy)-benzene 0.723, Miranol A15 1, and water and excipients q.s. 100 g. Equal amt. of above compn. is mixed with 20 vol. hydrogen peroxide and applied on the hair for 30 min, the hair is then rinsed, washed with a shampoo, rinsed and dried to obtain a blue color.				
ST	oxidative hair dye paraphenylenediamine direct dye				
IT	Bromates				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(alkali metal salts; oxidative hair dyes contg. paraphenylenediamine derivs. direct dyes)				
IT	Polyelectrolytes				
	Surfactants				

(amphoteric; oxidative hair dyes contg. paraphenylenediamine derivs.  
direct dyes)

IT Surfactants  
(anionic; oxidative hair dyes contg. paraphenylenediamine  
derivs. direct dyes)

IT Polyelectrolytes  
Surfactants  
(cationic; oxidative hair dyes contg. paraphenylenediamine derivs.  
direct dyes)

IT Dyes  
(direct; oxidative hair dyes contg. paraphenylenediamine derivs. direct  
dyes)

IT Hair preparations  
(dyes, oxidative; oxidative hair dyes contg. paraphenylenediamine  
derivs. direct dyes)

IT Alcohols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(fatty; oxidative hair dyes contg. paraphenylenediamine derivs. direct  
dyes)

IT Dyes  
(natural; oxidative hair dyes contg. paraphenylenediamine derivs.  
direct dyes)

IT Surfactants  
(nonionic; oxidative hair dyes contg. paraphenylenediamine derivs.  
direct dyes)

IT Salts, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(of peroxy acids; oxidative hair dyes contg. paraphenylenediamine  
derivs. direct dyes)

IT Solvents  
(org.; oxidative hair dyes contg. paraphenylenediamine derivs. direct  
dyes)

IT Antioxidants  
Azo dyes  
Opacifiers  
Oxidizing agents  
Preservatives  
Thickening agents  
(oxidative hair dyes contg. paraphenylenediamine derivs. direct dyes)

IT Acids, biological studies  
Alkali metal hydroxides  
Ceramides  
Cyclosiloxanes  
Enzymes, biological studies  
Paraffin oils  
Peroxysulfates  
Polysiloxanes, biological studies  
Vitamins  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dyes contg. paraphenylenediamine derivs. direct dyes)

IT Fats and Glyceridic oils, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(vegetable; oxidative hair dyes contg. paraphenylenediamine derivs.  
direct dyes)

IT 359841-61-5  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(edioxidative hair dyes contg. paraphenylenediamine derivs. direct dyes)

IT	72-48-0, Alizarine	81-48-1, solvent violet 13	81-54-9, Purpurin
	82-33-7 83-72-7, Lawsone	85-23-4, Spinulosin	89-25-8 90-15-3,
	.alpha. Naphthol	91-56-5, Isatin	92-31-9, basic blue 17 95-54-5
	95-55-6 95-70-5 95-88-5	106-50-3 108-26-9 108-45-2	108-45-2D, 1,3-Benzenediamine, derivs.
	116-85-8, disperse red 15	108-46-3 110-86-1D, Pyridine, derivs.	128-95-0, disperse
	violet 1 139-85-5	123-30-8 124-43-6	289-95-2D, Pyrimidine, derivs. 458-37-7, Curcumine
	477-73-6, basic red 2	481-39-0, Juglone	533-31-3, Sesamol 533-31-3D, Sesamol, derivs.
	548-62-9, basic violet 3	569-77-7, Purpurogallin	587-98-4, acid yellow 36 591-27-5, 3-Aminophenol 608-25-3 632-99-5,
	basic violet 14 633-03-4, basic green 1	633-96-5, acid orange 7	basic violet 14 633-03-4, basic green 1 633-96-5, acid orange 7
	1151-98-0, Apigenidin	1220-94-6, disperse violet 4	1260-17-9, Carminic acid 1320-07-6, acid orange 24 1694-09-3, acid violet 49 1934-21-0,
	acid yellow 23 2380-86-1, 1H-Indol-6-ol	2380-94-1, 1H-Indol-4-ol	acid yellow 23 2380-86-1, 1H-Indol-6-ol 2380-94-1, 1H-Indol-4-ol
	2390-60-5, basic blue 7	2475-45-8, disperse blue 1	2475-46-9, disperse
	blue 3 2580-56-5, basic blue 26	2650-18-2, acid blue 9	2706-28-7, acid yellow 9 2835-95-2, 2-Methyl-5-aminophenol 2872-48-2, disperse
	acid yellow 9 2835-95-2, 2-Methyl-5-aminophenol	3179-90-6, disperse blue 7	3486-30-4, acid blue 7 3567-66-6, acid red 33 4368-56-3, acid blue 62 4430-18-6, acid violet 43
	4664-16-8 4770-37-0	5735-53-5D, Benzomorpholine, derivs.	6441-93-6
	7469-77-4 7556-37-8	7575-35-1	7722-84-1, Hydrogen peroxide, biological studies 9003-99-0, Peroxidase 9055-15-6,
	Oxidoreductase	12217-41-3, basic blue 22	12221-52-2, basic red
	22 13556-29-1 18499-92-8, Kermesic acid	20721-50-0, disperse black 9	22036-97-1 22366-99-0 23946-41-0 26381-41-9, basic brown 16
	36118-45-3D, Pyrazoline, derivs.	47569-30-2 52136-23-9 52136-25-1	55302-96-0 66422-95-5 68123-13-7, basic blue 99 68391-30-0, basic
	red 76 68391-31-1, basic yellow 57	68651-46-7, Indigo (dye)	red 76 68391-31-1, basic yellow 57 68651-46-7, Indigo (dye)
	69151-32-2 70643-19-5	80498-15-3, Laccase	83763-47-7 93841-24-8
	99788-75-7 143525-61-5	143525-64-8 154442-49-6	171662-44-5
	171662-53-6 176742-32-8, basic brown 17	200346-04-9	200346-06-1
	200346-16-3 204700-85-6	227617-43-8 228268-53-9	228268-59-5
	228268-69-7 228268-74-4	228268-76-6 228268-85-7	228268-87-9
	228555-69-9 228555-73-5	228555-75-7 228555-77-9	228555-79-1
	228555-81-5 228569-19-5	228569-22-0 228569-31-1	228569-39-9
	228569-43-5 228569-47-9	228569-56-0 342013-25-6	359840-68-9
	359840-69-0 359840-70-3	359840-71-4 359840-72-5	359840-73-6
	359840-74-7 359840-75-8	359840-76-9 359840-77-0	359840-78-1
	359840-79-2 359840-80-5	359840-81-6 359840-82-7	359840-83-8
	359840-84-9 359840-85-0	359840-86-1 359840-87-2	359840-88-3
	359840-89-4 359840-90-7	359840-91-8 359840-92-9	359840-93-0
	359840-94-1 359840-95-2	359840-96-3 359840-97-4	359840-98-5
	359840-99-6 359841-00-2	359841-01-3 359841-02-4	359841-03-5
	359841-04-6 359841-05-7	359841-06-8 359841-07-9	359841-08-0
	359841-09-1 359841-10-4	359841-11-5 359841-12-6	359841-13-7
	359841-14-8 359841-15-9	359841-16-0 359841-17-1	359841-18-2
	359841-19-3 359841-20-6	359841-21-7 359841-22-8	359841-23-9
	359841-24-0 359841-25-1	359841-26-2 359841-27-3	359841-28-4
	359841-29-5 359841-30-8	359841-31-9 359841-32-0	359841-33-1
	359841-34-2 359841-35-3	359841-36-4 359841-37-5	359841-38-6
	359841-39-7 359841-40-0	359841-41-1 359841-42-2	359841-43-3
	359841-44-4 359841-45-5	359841-46-6 359841-47-7	359841-48-8
	359841-49-9 359841-50-2	359841-51-3 359841-52-4	359841-53-5
	359841-54-6 359841-55-7	359841-56-8 359841-57-9	359841-58-0
	359841-59-1 359841-60-4	359841-62-6 359841-63-7	359841-64-8
	359841-65-9 359841-66-0	359841-67-1 359841-68-2	359841-69-3
	359850-56-9 359868-06-7	360069-60-9	

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dyes contg. paraphenylenediamine  
 derivs. direct dyes)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Anon; JP 11158048 A 1999 HCAPLUS
- (2) Anon; PATENT ABSTRACTS OF JAPAN 1999, V1999(11)
- (3) Fuji Photo Film Co Ltd; JP 11158048 A 1999 HCAPLUS
- (4) Henkel Kgaa; DE 19707545 A 1998 HCAPLUS
- (5) Oreal; EP 0673641 A 1995 HCAPLUS
- (6) Schwarzkopf Gmbh Hans; DE 19728335 A 1998 HCAPLUS
- (7) Squibb Bristol Myers Co; EP 0962452 A 1999 HCAPLUS

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dyes contg. paraphenylenediamine  
 derivs. direct dyes)

RN 9055-15-6 HCAPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 16 OF 53 HCAPLUS COPYRIGHT 2002 ACS  
 AN 2001:654637 HCAPLUS  
 DN 135:215749  
 TI Keratin fiber dye compositions containing indolizine cationic  
 derivatives as coupling agents  
 IN Breton, Philippe; Segala, Fabienne; Lagrange, Alain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 20 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC A61K007-13; C07D471-04  
 CC 62-3 (Essential Oils and Cosmetics)  
 Section cross-reference(s): 27

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1129690	A2	20010905	EP 2001-400430	20010219
	EP 1129690	A3	20011128		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2805460	A1	20010831	FR 2000-2419	20000225
	JP 2001270813	A2	20011002	JP 2001-51270	20010226
	US 2001044974	A1	20011129	US 2001-791822	20010226
PRAI	FR 2000-2419	A	20000225		
OS	MARPAT 135:215749				
AB	The title oxidative hair dye compns. are disclosed. Thus, 7-methyl-2-phenyl-3-(2-pyridin-2-yl-ethyl)-indolizine was refluxed with di-Me sulfate in Et acetate for 2 h to obtain 1-methyl-2-[2-(7-methyl-2- phenyl-indolizin-3-yl)-ethyl]-pyridinium (I). A hair dye compn. contained I 3x10-3, paratoluenediamine 3x10-3 mole, water and excipients q.s. 100 g. Equal amt. of the compn. is mixed with 20 vol. hydrogen peroxide and applied on the hair for 30 min. The hair is then rinsed with water, washed with shampoo and dried to obtain a golden blond color.				
ST	oxidative hair dye indolizine deriv coupler				
IT	Bromates				

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (alkali metal salts; keratin fiber dye compns. contg.  
 indolizine cationic derivs. as coupling agents)

IT Hair preparations  
 (dyes, oxidative; keratin fiber dye compns. contg. indolizine  
 cationic derivs. as coupling agents)

IT Coupling agents  
 Oxidizing agents  
 (keratin fiber dye compns. contg. indolizine cationic derivs.  
 as coupling agents)

IT Enzymes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (keratin fiber dye compns. contg. indolizine cationic derivs.  
 as coupling agents)

IT Salts, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (of peroxy acids; keratin fiber dye compns. contg. indolizine  
 cationic derivs. as coupling agents)

IT 92-65-9 93-05-0, N,N-Diethyl p-phenylenediamine 95-55-6, 2 aminophenol  
 95-55-6D, derivs. 95-70-5 99-98-9, N,N-Dimethyl p-phenylenediamine  
 101-54-2 106-50-3, 1,4-Benzenediamine, biological studies 106-50-3D,  
 1,4-Benzenediamine, derivs. 108-45-2D, 1,3-Benzenediamine, derivs.  
 123-30-8, p-Aminophenol 123-30-8D, derivs. 124-43-6 148-71-0,  
 4-Amino-N,N-diethyl-3-methyl aniline 399-95-1, 4-Amino 3-fluorophenol  
 399-96-2, 4 amino 2 fluorophenol 537-65-5 591-27-5D, derivs.  
 615-66-7, 2-Chloro-p-phenylenediamine 1630-11-1, 2,6-Diethyl  
 p-phenylenediamine 2359-52-6 2359-53-7 2835-96-3, 4-amino 2  
 methylphenol 2835-98-5, 2 amino 5-methylphenol 2835-99-6, 4 amino 3  
 methylphenol 5306-96-7, 2,3-Dimethyl-p-phenylenediamine 5862-80-6  
 6393-01-7, 2,5-Dimethyl p-phenylenediamine 7218-02-2, 2,6-Dimethyl  
 p-phenylenediamine 7575-35-1, N,N-Bis(.beta.-hydroxyethyl)  
 p-phenylenediamine 7722-84-1, Hydrogen peroxide, biological studies  
 9002-10-2, Tyrosinase 9003-99-0, Peroxidase 9055-15-6,  
 Oxidoreductase 14791-78-7, 2-Fluoro p-phenylenediamine  
 15583-11-6 15583-12-7 17672-22-9, 2 amino 6-methylphenol 35682-64-5  
 35682-65-6 35691-87-3 35691-91-9 47139-07-1 47581-03-3  
 52200-90-5, 4-amino 2 methoxyphenol 63969-43-7 73793-80-3,  
 2-Hydroxymethyl p-phenylenediamine 79352-72-0, 4-amino 2  
 aminomethylphenol 80467-77-2, N-(2-Hydroxypropyl) p-phenylenediamine  
 80498-15-3, Laccase 93841-24-8, 2-.beta.-Hydroxyethyl p-phenylenediamine  
 97902-52-8, 2-Isopropyl p-phenylenediamine 104333-09-7, 4-Amino  
 2-hydroxymethylphenol 105293-89-8, N,N-Dipropyl p-phenylenediamine  
 105607-68-9 110952-46-0, 4-Amino 2-(2-hydroxyethylaminomethyl)phenol  
 128729-30-6 128729-31-7 129697-50-3, 5-acetamido 2 aminophenol  
 130582-53-5 135855-34-4 135855-35-5 168202-61-7, 4 amino 3  
 hydroxymethylphenol 189261-56-1 221110-58-3 358359-11-2  
 358359-13-4 358359-14-5 358359-15-6 358359-16-7 358359-17-8  
 358359-18-9 358359-19-0 358359-20-3 358359-21-4 358359-22-5  
 358359-23-6 358359-24-7 358359-25-8 358359-26-9 358359-27-0  
 358359-28-1 358359-29-2 358359-30-5 358359-31-6  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (keratin fiber dye compns. contg.  
 indolizine cationic derivs. as coupling agents)

IT 358359-09-8P 358359-10-1P  
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL  
 (Biological study); PREP (Preparation); USES (Uses)

(keratin fiber dye compns. contg. indolizine cationic derivs.  
as coupling agents)

IT 77-78-1, Dimethylsulfate 79-04-9, Chloroacetic acid chloride 616-47-7,  
n Methylimidazole 768-18-3, 2 methylindolizine 1337-81-1, Vinyl  
pyridine 26557-56-2, 7-Methyl-2-phenyl-indolizine  
RL: RCT (Reactant)  
(keratin fiber dye compns. contg. indolizine cationic derivs.  
as coupling agents)

IT 358359-08-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)  
(keratin fiber dye compns. contg. indolizine cationic derivs.  
as coupling agents)

IT 9002-10-2, Tyrosinase 9055-15-6, Oxidoreductase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(keratin fiber dye compns. contg.  
indolizine cationic derivs. as coupling agents)

RN 9002-10-2 HCPLUS  
CN Oxygenase, monophenol mono- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS  
CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 17 OF 53 HCPLUS COPYRIGHT 2002 ACS  
AN 2001:654636 HCPLUS  
DN 135:215748  
TI Keratinous fiber dyeing composition comprising  
N-(2-hydroxybenzene)carbamate or N-(2-hydroxybenzene)urea derivatives as  
coupling agents  
IN Saunier, Jean-Baptiste; Vidal, Laurent  
PA L'oreal, Fr.  
SO Eur. Pat. Appl., 33 pp.  
CODEN: EPXXDW  
DT Patent  
LA French  
IC ICM A61K007-13  
CC 62-3 (Essential Oils and Cosmetics)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1129689	A2	20010905	EP 2001-400429	20010219
	EP 1129689	A3	20011121		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2805159	A1	20010824	FR 2000-2335	20000223
	JP 2001270814	A2	20011002	JP 2001-49456	20010223
	US 2001034914	A1	20011101	US 2001-790524	20010223

PRAI FR 2000-2335 A 20000223  
OS MARPAT 135:215748  
AB The title hair dye compns. are disclosed. A hair dye  
compn. contained para-aminophenol 0.73, (2-hydroxy-4-  
aminophenyl)carbamate Et ester 1.31, water and excipients q.s. 100 g.  
Equal amt. of the compn. is mixed with 20 vol. hydrogen peroxide  
and applied on the hair for 30 min. The hair is then rinsed with water,  
washed with shampoo and dried to obtain copper blond color.  
ST hair dye hydroxybenzene carbamate deriv coupler; urea  
hydroxybenzene deriv hair dye coupling agent

## IT Bromates

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(alkali metal salts; keratinous fiber dyeing compn.  
comprising hydroxybenzene carbamate or hydroxybenzene urea derivs. as coupling agents)

## IT Hair preparations

(dyes, oxidative; keratinous fiber dyeing compn. comprising hydroxybenzene carbamate or hydroxybenzene urea derivs. as coupling agents)

## IT Coupling agents

(keratinous fiber dyeing compn. comprising hydroxybenzene carbamate or hydroxybenzene urea derivs. as coupling agents)

## IT Enzymes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(keratinous fiber dyeing compn. comprising hydroxybenzene carbamate or hydroxybenzene urea derivs. as coupling agents)

## IT Salts, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(of peroxy acids; keratinous fiber dyeing compn. comprising hydroxybenzene carbamate or hydroxybenzene urea derivs. as coupling agents)

IT	92-65-9	93-05-0	95-55-6, 2-Aminophenol	95-70-5	99-98-9	101-54-2
	106-50-3	108-45-2D, 1,3-Benzenediamine, derivs.		123-30-8		124-43-6
	148-71-0	399-95-1, 4 amino 3 fluoro phenol	399-96-2, 4 amino			
	2-fluorophenol	537-65-5	591-27-5D, derivs.	615-66-7	1196-72-1	
	1630-11-1	2359-52-6	2359-53-7	2656-22-6	2811-27-0	2835-96-3, 4
	amino 2 methyl phenol	2835-98-5,	2-Amino 5-methylphenol	2835-99-6,	2835-99-6,	4
	amino 3 methyl phenol	5306-96-7	5862-80-6	6393-01-7	7218-02-2	
	7575-35-1	7722-84-1, Hydrogen peroxide, biological studies				
	9002-10-2, tyrosinase	9003-99-0, peroxidase	9055-15-6,			
	Oxidoreductase	14791-78-7	17672-22-9, 2-Amino 6-methylphenol			
	19298-14-7	24918-69-2	27898-06-2	28096-25-5	29785-47-5,	4 amino 2
	methoxymethyl phenol	34542-96-6	38910-17-7	40783-78-6	42953-11-7	
	54381-16-7	55446-28-1	56021-27-3	56836-51-2	57718-28-2	
	63969-43-7	73793-80-3	79352-72-0, 4 amino 2 aminomethyl phenol			
	80467-77-2	80498-15-3, laccase	83898-17-3	90661-81-7	97902-52-8	
	104333-09-7,	4 amino 2 hydroxymethyl phenol	105293-89-8		105607-68-9	
	110952-46-0	119838-00-5	119838-04-9	121238-42-4		126335-43-1
	128729-30-6	128729-31-7	129697-50-3, 5-Acetamido-2-aminophenol			
	130582-53-5	135855-34-4	135855-35-5	168202-61-7, 4 amino 3		
	hydroxymethyl phenol	201599-07-7	207568-58-9	221110-58-3		
	221110-59-4	232284-09-2	357272-85-6	357272-86-7	357272-87-8	
	357272-88-9	357272-89-0	357272-91-4	357272-92-5	357272-93-6	
	357272-94-7	357272-95-8	357272-96-9	357272-97-0	357272-98-1	
	357272-99-2	357273-00-8	357273-01-9	357273-02-0	357273-03-1	
	357273-04-2	357273-05-3	357273-07-5	357273-08-6	357273-09-7	
	357273-10-0	357273-11-1	357273-12-2	357273-13-3	357273-14-4	
	357273-15-5	357273-16-6	357273-18-8	357273-20-2	357273-22-4	
	357273-26-8	357273-28-0	357273-30-4	357273-31-5	357273-32-6	
	357273-33-7	357273-34-8	357273-35-9	357273-36-0	357273-37-1	
	357273-38-2	357273-39-3	357273-40-6	357273-41-7	357273-42-8	
	357273-43-9	357273-44-0	357273-45-1	357273-46-2	357273-47-3	
	357273-48-4	357273-49-5	357273-51-9	357273-53-1	357273-54-2	
	357273-55-3	357273-56-4	357273-57-5	357273-58-6	357273-59-7	
	357273-60-0	357273-61-1	357273-62-2	357273-63-3	357273-64-4	
	357273-65-5	357273-66-6	357273-67-7	357273-68-8	357273-69-9	
	357273-70-2	357273-71-3	357273-72-4	357273-74-6	357273-75-7	

357273-76-8	357273-77-9	357273-78-0	357273-79-1	357273-80-4
357273-81-5	357273-82-6	357273-83-7	357273-84-8	357273-85-9
357273-86-0	357273-87-1	357273-88-2	357273-89-3	357273-90-6
357273-91-7	357273-92-8	357273-93-9	357273-94-0	357273-95-1
357273-96-2	357273-97-3	357273-98-4	357273-99-5	357274-00-1
357274-01-2	357274-02-3	357274-03-4	357274-04-5	357274-05-6
357274-06-7	357274-07-8	357274-08-9	357274-09-0	357274-10-3
357274-11-4	357274-12-5	357274-14-7	357274-15-8	357274-16-9
357274-17-0	357274-18-1	357274-19-2	357274-20-5	357274-21-6
357274-23-8	357274-24-9	357274-25-0	357274-26-1	357274-27-2
357274-28-3	357274-29-4	357274-30-7	357274-31-8	357274-32-9
357274-33-0	357274-34-1	357276-31-4	357276-32-5	

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(keratinous fiber dyeing compn.  
comprising hydroxybenzene carbamate or hydroxybenzene urea derivs. as  
coupling agents)

IT 9002-10-2, tyrosinase 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(keratinous fiber dyeing compn.  
comprising hydroxybenzene carbamate or hydroxybenzene urea derivs. as  
coupling agents)

RN 9002-10-2 HCPLUS

CN Oxygenase, monophenol mono- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 18 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:489203 HCPLUS

DN 135:81834

TI One-pack type post-foamable oxidation hair-dye compositions

IN Tsujino, Yoshio; Aoki, Masahiro

PA Yamahatsu Sangyo Kaisha, Ltd., Japan

SO PCT Int. Appl., 15 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001047487	A1	20010705	WO 1999-JP7273	19991224
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AB	Disclosed are one-pack type post-foamable oxidn. hair-dye compns characterized by contg. uricase, uric acid, an oxidn. dye and a post-foaming agent. These compns. impart an excellent feel in				

using, achieve good performance and exert an excellent hair-dyeing effect. A hair dye compn. contained p-phenylenediamine 0.6, p-methylaminophenol sulfate 0.3, 2,4-diaminophenoxyethanol hydrochloride 0.05, p-aminophenol 0.1, 5-amino-o-cresol 0.05, resorcinol 0.5, N-acetyl-L-cysteine 0.08, alkyl acrylate copolymer 2.5, sorbitol 3, polyoxyethylene dimethylglucoside 1, coco fatty acid polypeptide reaction products 1, monoethanolamine q.s. to pH 9.2, uricase (20 IU/mg) 1, isopentane 0.5, and distd. water q.s. to 100 %.

ST hair dye uricase urate org solvent

IT Hair preparations

(dyes, oxidative; one-pack post-foamable oxidn. hair dyes contg. uricase and urate and org. solvents)

IT 69-93-2, Uric acid, biological studies 74-98-6, Propane, biological studies 75-28-5, Isobutane 78-78-4, Isopentane 106-97-8, Butane, biological studies 109-66-0, Pentane, biological studies 115-10-6, Dimethyl ether 9002-12-4, Uricase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(one-pack post-foamable oxidn. hair dyes contg. uricase and urate and org. solvents)

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Koike Kagaku K K; JP 10316532 A 1998 HCPLUS
- (2) Kyowa Hakko Kogyo Kabushikigaisha; US 4961925 A HCPLUS
- (3) Kyowa Hakko Kogyo Kabushikigaisha; JP 63246313 A HCPLUS
- (4) Kyowa Hakko Kogyo Kabushikigaisha; WO 8807360 A1 HCPLUS
- (5) Kyowa Hakko Kogyo Kabushikigaisha; EP 310675 A1 1989 HCPLUS
- (6) Mandom Corp; JP 977629 A 1997
- (7) Mandom Corp; JP 977630 A 1997
- (8) Novo Nordisk; WO 9915137 A1 1999 HCPLUS
- (9) Yamahatsu Sangyo Kaisha Ltd; JP 08217652 A HCPLUS
- (10) Yamahatsu Sangyo Kaisha Ltd; JP 10298027 A HCPLUS
- (11) Yamahatsu Sangyo Kaisha Ltd; CN 1132623 A HCPLUS
- (12) Yamahatsu Sangyo Kaisha Ltd; CN 1200264 A HCPLUS
- (13) Yamahatsu Sangyo Kaisha Ltd; CA 2150596 A HCPLUS
- (14) Yamahatsu Sangyo Kaisha Ltd; US 6027719 A HCPLUS
- (15) Yamahatsu Sangyo Kaisha Ltd; AU 6194998 A1
- (16) Yamahatsu Sangyo Kaisha Ltd; AU 9536624 A1 HCPLUS
- (17) Yamahatsu Sangyo Kaisha Ltd; EP 716846 A1 1996 HCPLUS
- (18) Yamahatsu Sangyo Kaisha Ltd; EP 875241 A2 1998 HCPLUS

IT 9002-12-4, Uricase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(one-pack post-foamable oxidn. hair dyes contg. uricase and urate and org. solvents)

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 19 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 2001:472447 HCPLUS

DN 135:66017

TI Hair dye aerosol compositions containing water-soluble polymers

IN Noguchi, Mutsumi; Onuki, Takeshi; Mitamura, Joji

PA Lion Corporation, Japan

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA Japanese

IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001045656	A1	20010628	WO 2000-JP8987	20001219
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	JP 2001172142	A2	20010626	JP 1999-360313	19991220
	JP 2001240520	A2	20010904	JP 2000-385014	20001219
PRAI	JP 1999-360313	A	19991220		
	JP 1999-360797	A	19991220		
OS	MARPAT 135:66017				
AB	Disclosed is a one-pack aerosol-type hair dye compn. contg. an oxidn. dye and an oxidizing enzyme, characterized by further contg. at least one water-sol. polymer selected from among hydroxypropyl cellulose, CM-cellulose, xanthan gum, guar gum, locust bean gum, gum arabic, tragacanth gum, karaya gum, gellan gum, pectin, carrageenan, furcellaran, alginic acid and salts thereof, hyaluronic acid and salts thereof, chondroitin sulfate and salts thereof, ethylene oxide polymers, polyacrylic acid and salts thereof, acrylic acid copolymers and salts thereof, polyvinylpyrrolidone, vinylpyrrolidone copolymers, polyvinyl acetate, vinyl acetate copolymers and carboxyvinyl polymers. A hair dye aerosol compn. contg. p-phenylenediamine 1.5, p-aminophenol 0.1, methaphenylenediamine 0.15, hydroxypropyl cellulose (Niso HPC) 5, ethanol 5, lactic acid 0.5, oleic acid 0.1, sodium polyoxylethylene lauryl ether sulfate 0.2, laccase 0.3, monoethanol amine and water q.s. to 100 % was prep'd.				
ST	hair dye aerosol water sol polymer				
IT	Surfactants (Amides; hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes and amide surfactants)				
IT	Vinyl compounds, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (carboxy-contg., polymers; hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes)				
IT	Hair preparations (dyes; hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes)				
IT	Polyoxyalkylenes, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes)				
IT	Amides, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (surfactants; hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes and amide surfactants)				
IT	Polymers, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				

(water-sol.; hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes)

IT 75-21-8D, Ethylene oxide, polymers 79-10-7, Acrylic acid, biological studies 88-12-0D, copolymers 108-05-4D, Vinyl acetate, copolymers 9000-01-5, Gum arabic 9000-07-1, Carrageenan 9000-21-9, Furcellaran 9000-30-0, Guar gum 9000-36-6, Karaya gum 9000-40-2, Locust bean gum 9000-65-1, Tragacanth gum 9000-69-5, Pectin 9002-12-4, Uricase 9003-01-4, Polyacrylic acid 9003-04-7, Aronvis S 9003-20-7, Polyvinyl acetate 9003-39-8, luviskol K90 9003-99-0, Peroxidase 9004-32-4, CM-cellulose 9004-61-9, Hyaluronic acid 9004-64-2, Nisso HPC 9005-32-7, Alginic acid 9007-28-7, Chondroitin sulfate 11138-66-2, Xanthan gum 25322-68-3, polyox WSR-303 71010-52-1, Gellan gum 80498-15-3, Laccase 96827-24-6, carbopol 1342  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes)

IT 137-16-6, N-Lauroyl-sarcosine sodium salt 16693-53-1, N-Lauroyl-sarcosine triethanolamine salt 21539-58-2, N-Lauroyl-N-methyl-.beta.-alanine sodium salt 61538-73-6, N-Lauroyl-.beta.-alanine triethanolamine salt 89353-55-9, N-Lauroyl-N-methyl-.beta.-alanine triethanolamine salt  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes and amide surfactants)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Lion Corporation; JP 1160454 A  
 (2) Lion Corporation; EP 958806 A1 HCPLUS  
 (3) Lion Corporation; WO 9856335 A1 1998 HCPLUS  
 (4) Yamahatsu Sangyo K K; JP 08217652 A HCPLUS  
 (5) Yamahatsu Sangyo K K; CN 1132623 A HCPLUS  
 (6) Yamahatsu Sangyo K K; CA 2150596 A HCPLUS  
 (7) Yamahatsu Sangyo K K; AU 9536624 A1 HCPLUS  
 (8) Yamahatsu Sangyo K K; EP 716846 A1 1996 HCPLUS

IT 9002-12-4, Uricase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (hair dye aerosol compns. contg. water-sol. polymers and oxidizing enzymes)

RN 9002-12-4 HCPLUS  
 CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 20 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 2000:865148 HCPLUS  
 DN 134:32767  
 TI Composition for oxidative dyeing of keratinous fibers comprising oxidation base and an oxido-reductase enzyme  
 IN Plos, Gregory; Kravtchenko, Sylvain  
 PA L'oreal, Fr.  
 SO Eur. Pat. Appl., 16 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1057471 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO FR 2794365 JP 2001031538	A1 A1 A2	20001206 20001208 20010206	EP 2000-401362 FR 1999-7092 JP 2000-166125	20000518 19990604 20000602
PRAI	FR 1999-7092	A	19990604		
OS	MARPAT 134:32767				
AB	An oxidative hair dye prepn. contg. an oxidn. base and an oxido-reductase enzyme is disclosed (Markush structures given). A hair dye prepn. contained D-alanine oxidase 2000 U, para-phenylenediamine 0.324, 1-amino-2-methoxy-4,5-methylenedioxy benzene 0.611, D-alanine 0.535, 2-amino-2-methyl-1-propanol q.s. pH = 9, and water q.s. 100 g. The compn. produced a dull golden color.				
ST	oxidative hair dye base oxidoreductase enzyme				
IT	Coupling agents (compn. for oxidative dying of keratinous fibers comprising oxidn. base and oxido-reductase enzyme)				
IT	Enzymes, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (compn. for oxidative dying of keratinous fibers comprising oxidn. base and oxido-reductase enzyme)				
IT	Hair preparations (dyes, oxidative; compn. for oxidative dying of keratinous fibers comprising oxidn. base and oxido-reductase enzyme)				
IT	89-25-8 90-15-3, .alpha.-Naphthol 92-65-9 93-05-0 95-55-6, 2-Aminophenol 95-55-6D, O-Aminophenol, derivs. 95-70-5 95-88-5, 4-Chloro,3-Dihydroxybenzene 99-98-9 101-54-2 106-50-3, 1,4-Benzenediamine, biological studies 106-50-3D, 1,4-Benzenediamine, derivs. 108-26-9 108-45-2, 1,3-Diamino benzene, biological studies 108-46-3, 1,3-Dihydroxybenzene, biological studies 110-86-1D, Pyridine, derivs., biological studies 123-30-8D, p-Aminophenol, derivs. 148-71-0 289-95-2D, Pyrimidine, derivs. 338-69-2, D-Alanine 399-95-1, 4-Amino-3-fluorophenol 399-96-2 533-31-3, Sesamol 537-65-5 591-27-5, 3-Aminophenol 608-25-3 615-66-7, 2-Chloro-p-phenylenediamine 1630-11-1 2359-52-6 2359-53-7 2380-86-1, 1H-Indol-6-ol 2380-94-1, 1H-Indol-4-ol 2835-95-2, 2-Methyl 5-aminophenol 2835-96-3, 4-Amino-2-methylphenol 2835-98-5, 2-Amino-5-methylphenol 2835-99-6, 4-Amino-3-methylphenol 4664-16-8 4770-37-0, 6-Hydroxyindoline 5306-96-7, 2,3-Dimethyl-p-phenylenediamine 5862-80-6 6393-01-7				
IT	74-88-4, reactions 97-60-9 100-35-6 106-58-1, 1,4-Dimethylpiperazine 108-24-7, Acetic anhydride 7647-01-0, Hydrochloric acid, reactions RL: RCT (Reactant) (oxidative hair dye compns. contg. cationic coupling agent)				
IT	109-70-6P, 1-Bromo-3-chloropropane 79858-72-3P 79873-86-2P 244779-73-5P 244779-74-6P 244779-76-8P 244779-77-9P 244779-78-0P RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (oxidative hair dye compns. contg. cationic coupling agent)				
RE.CNT	4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD				
RE	(1) Farbenfabriken Bayer Ag; BE 639047 A HCAPLUS (2) Nippon Rinsho Kagakkai; RINSHO KAGAKU 1987, V16(2), P106 (3) Ohsawa, S; Application of new synthetic substrate for estimation of serum cholinesterase activity Measurement of pseudo-ChE activity using the new				

substrate (3-4-dihydroxybenzoylcholine) 1988, 5, HCAPLUS  
 (4) Oreal; FR 2520358 A 1983 HCAPLUS  
 IT 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg.  
 cationic coupling agent)  
 RN 9055-15-6 HCAPLUS  
 CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 29 OF 53 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:464164 HCAPLUS

DN 131:120589

TI Hair dye composition containing a laccase

IN Lang, Gerard; Cotteret, Jean

PA L'Oreal, Fr.

SO PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9936035	A1	19990722	WO 1998-FR2794	19981218
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2773477	A1	19990716	FR 1998-254	19980113
	FR 2773477	B1	20010223		
	AU 9917666	A1	19990802	AU 1999-17666	19981218
	AU 729022	B2	20010125		
	BR 9814740	A	20001017	BR 1998-14740	19981218
	EP 1047377	A1	20001102	EP 1998-962518	19981218
	EP 1047377	B1	20010627		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	AT 202469	E	20010715	AT 1998-962518	19981218
	ES 2161074	T3	20011116	ES 1998-962518	19981218
PRAI	FR 1998-254	A	19980113		
	WO 1998-FR2794	W	19981218		
AB	The invention concerns a ready-to-use compn. for dyeing human keratinous fibers and more particularly human hair, comprising (a) at least an enzyme such as laccase; (b) at least a cationic substance or particular amphoteric polymer; (c) at least an oxidn. coloring agent, as well as the dyeing methods using said compn.				
ST	hair dye laccase formulation				
IT	Polysiloxanes, biological studies				
	RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)				
	(3-[(2-aminoethyl)amino]-2-methylpropyl Me, di-Me; hair dye				

compn. contg. a laccase)  
IT Polysiloxanes, biological studies  
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)  
([(aminoethyl)amino]propyl hydroxy, di-Me; hair dye compn.  
contg. a laccase)  
IT Polysiloxanes, biological studies  
RL: BUU (Biological use, unclassified); PEP (Physical, engineering or  
chemical process); BIOL (Biological study); PROC (Process); USES (Uses)  
(cationic; hair dye compn. contg. a laccase)  
IT Polymers, biological studies  
RL: BUU (Biological use, unclassified); PEP (Physical, engineering or  
chemical process); BIOL (Biological study); PROC (Process); USES (Uses)  
(co-, dimethyldiallylammonium halide; hair dye compn. contg.  
a laccase)  
IT Hair preparations  
(dyes; hair dye compn. contg. a laccase)  
IT Oxidation  
(enzymic; hair dye compn. contg. a laccase)  
IT Antioxidants  
Buffers  
Coupling agents  
Dispersing agents  
Opacifiers  
Perfumes  
Permeation enhancers  
Preservatives  
Sequestering agents  
Surfactants  
Thickening agents  
(hair dye compn. contg. a laccase)  
IT Enzymes, biological studies  
RL: BAC (Biological activity or effector, except adverse); BUU (Biological  
use, unclassified); NUU (Other use, unclassified); PEP (Physical,  
engineering or chemical process); BIOL (Biological study); PROC (Process);  
USES (Uses)  
(hair dye compn. contg. a laccase)  
IT Keratins  
RL: BPR (Biological process); PRP (Properties); BIOL (Biological study);  
PROC (Process)  
(hair dye compn. contg. a laccase)  
IT Paraffin oils  
Polymers, biological studies  
Vitamins  
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); PEP  
(Physical, engineering or chemical process); BIOL (Biological study); PROC  
(Process); USES (Uses)  
(hair dye compn. contg. a laccase)  
IT Chlorophylls, biological studies  
RL: MFM (Metabolic formation); BIOL (Biological study); FORM (Formation,  
nonpreparative)  
(laccases of plants producing; hair dye compn. contg. a  
laccase)  
IT Agaricus bisporus  
Anacardiaceae  
Apple  
Aspergillus nidulans  
Avocado (Persea americana)  
Banana (Musa)

Botrytis cinerea  
Carrot  
Catharanthus roseus  
Ceriporiopsis subvermispora  
Cerrena unicolor  
Chaetomium thermophilum  
Cladosporium cladosporioides  
Coffee (Coffea)  
Coprinus cinereus  
Dichomitus squalens  
Fomes fomentarius  
Ganoderma lucidum  
Ginkgo biloba  
Glomerella cingulata  
Heterobasidion annosum  
Horse chestnut (Aesculus)  
Iris (plant)  
Lacquer tree  
Lactarius piperatus  
Maple (Acer pseudoplatanus)  
Monotropa hypopitys  
Myceliophthora thermophila  
Neurospora crassa  
Panaeolus papilionaceus  
Panaeolus sphinctrinus  
Peach (Prunus persica)  
Phellinus noxius  
Pistacia palaestina  
Pleurotus ostreatus  
Podocarpaceae  
Podospora anserina  
Polyporus pinsitus  
Potato (Solanum tuberosum)  
Pyricularia oryzae  
Rhizoctonia solani  
Rigidoporus lignosus  
Rosemary  
Russula delica  
Schizophyllum commune  
Scytalidium  
Thelephora terrestris  
Trametes hirsuta  
Trametes versicolor  
Vinca minor  
    (laccases of; hair dye compn. contg. a laccase)  
IT Solvents  
    (org.; hair dye compn. contg. a laccase)  
IT 2835-95-2, 2-Methyl 5-aminophenol  
RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)  
    (coupling agent; hair dye compn. contg. a laccase)  
IT 26161-33-1, Poly(methacryloyloxyethyltrimethylammonium chloride)  
35429-19-7  
RL: BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)  
    (cross-linked; hair dye compn. contg. a laccase)  
IT 9003-99-0, Peroxidase 9055-15-6, Oxidoreductase  
RL: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); NUU (Other use, unclassified); PEP (Physical,

engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)

(hair dye compn. contg. a laccase)

IT 80498-15-3, Laccase  
RL: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)

(hair dye compn. contg. a laccase)

IT 88-12-0D, polymeric derivs. 89-25-8 90-15-3, .alpha.-Naphthol  
95-54-5D, 1,2-Benzenediamine, derivs. 95-55-6D, derivs. 95-88-5,  
4-Chloro-1,3-dihydroxybenzene 106-50-3D, 1,4-Benzenediamine, derivs.  
108-26-9 108-45-2, 1,3-Benzenediamine, biological studies 108-45-2D,  
1,3-Benzenediamine, derivs. 108-46-3, 1,3-Dihydroxybenzene, biological  
studies 108-46-3D, 1,3-Benzenediol, derivs. 123-30-8D, derivs.  
533-31-3, Sesamol 591-27-5, 3-Aminophenol 591-27-5D, derivs.  
608-25-3, 1,3-Dihydroxy-2-methylbenzene 2380-86-1, 6-Hydroxyindole  
4664-16-8, 2,6-Dihydroxy-4-methylpyridine 53694-17-0, Merquat 280  
55302-96-0 66422-95-5, 2,4-Diaminophenoxyethanol dihydrochloride  
70643-19-5 81892-72-0 83763-47-7 93846-05-0 197179-33-2, Oramix  
CG110 231958-91-1

RL: BUU (Biological use, unclassified); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)

(hair dye compn. contg. a laccase)

IT 88-12-0D, cationic copolymers 26590-05-6, Acrylamide-diallyldimethylammonium chloride copolymer 57564-45-1 98616-25-2,  
Polyquaternium-24 223104-80-1

RL: BUU (Biological use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)

(hair dye compn. contg. a laccase)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Oreal; EP 0557203 A 1993 HCPLUS
- (2) Oreal; FR 2694018 A 1994 HCPLUS
- (3) Oreal; EP 0673641 A 1995 HCPLUS
- (4) Perma Sa; EP 0504005 A 1992 HCPLUS

IT 9055-15-6, Oxidoreductase

RL: BAC (Biological activity or effector, except adverse); BUU (Biological use, unclassified); NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)

(hair dye compn. contg. a laccase)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 30 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:401531 HCPLUS

DN 131:49211

TI Oxidative hair dye preparations containing pyrazolo-azole derivatives

IN Vidal, Laurent; Maubru, Mireille

PA L'oreal, Fr.

SO Eur. Pat. Appl., 39 pp.

CODEN: EPXXDW

DT Patent

LA French

IC ICM A61K007-13

ICS C07D487-04

ICI C07D487-04, C07D249-00, C07D231-00; C07D487-04, C07D257-00, C07D231-00;

C07D487-04, C07D235-00, C07D231-00; C07D487-04, C07D231-00, C07D231-00  
 CC 62-4 (Essential Oils and Cosmetics)  
 Section cross-reference(s): 28

## FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 923929	A1	19990623	EP 1998-402939	19981125
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	FR 2772379	A1	19990618	FR 1997-15947	19971216
	FR 2772379	B1	20000211		
	JP 11263790	A2	19990928	JP 1998-356792	19981215
	JP 3135536	B2	20010219		
	US 2002007520	A1	20020124	US 1998-212578	19981216
PRAI	FR 1997-15947	A	19971216		
OS	MARPAT 131:49211				
AB	The title compds. are prep'd. for use in oxidative hair dye compns. Thus, 1H-7-amino-3,6-dimethylpyrazolo[3,2-c]-1,2,4-triazole dihydrochloride (I) was prep'd. by hydrogenation of 1H-7-nitro-3,6-dimethylpyrazolo[3,2-c]-1,2,4-triazole over Pd/C in presence of a soln. of ethanolic HCl. A hair dye prepn. contained I 0.672, resorcin 0.330, benzylic acid 2, PEG 3, ethanol 18, Oramix CG110 6, 20% ammonia 10, sodium metabisulfite 0.208, sequestrant q.s. and water q.s. 100 g. At the time of use the prepn. is mixed with equal amt. of 6.10-3 mol% ammonium persulfate and applied on the hair for 30 min. The hair is then rinsed, washed with a shampoo, and dried to obtain an iris color.				
ST	oxidative hair dye pyrazoloazole deriv				
IT	Salts, biological studies				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(of peroxy acids; oxidative hair dye prepns. contg. pyrazolo-azole derivs.)				
IT	Coupling agents				
	(oxidative hair dye prepns. contg. pyrazolo-azole derivs.)				
IT	108-46-3D, 1,3-Benzenediol, derivs.				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(meta-; oxidative hair dye prepns. contg. pyrazolo-azole derivs.)				
IT	89-25-8 90-15-3, .alpha.-Naphthol 95-55-6D, derivs. 95-88-5 108-26-9 108-45-2, 1,3-Benzenediamine, biological studies 108-45-2D, 1,3-Benzenediamine, derivs. 108-46-3, 1,3-Benzenediol, biological studies 123-30-8D, derivs. 124-43-6 533-31-3, Sesamol 591-27-5 591-27-5D, derivs. 608-25-3 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2835-95-2, 2-Methyl-5-aminophenol 4664-16-8 4770-37-0, 6-Hydroxyindoline 7556-37-8 7722-84-1, Hydrogen peroxide, biological studies 9003-99-0, Peroxidase 9055-15-6, Oxidoreductase 10035-10-6D, HydroBromic acid, alkali metal salts 30569-52-9 55302-96-0 70643-19-5 81892-72-0 83763-47-7 93691-22-6 93846-05-0 94216-82-7 111628-46-7 227610-58-4 227610-59-5 227610-60-8 227610-61-9 227610-62-0 227610-63-1 227610-64-2 227610-65-3 227610-66-4 227610-67-5 227610-68-6 227610-69-7 227610-70-0 227610-71-1 227610-72-2 227610-73-3 227610-74-4 227610-75-5 227610-76-6 227610-77-7 227610-78-8 227610-79-9 227610-81-3 227610-82-4 227610-83-5 227610-84-6 227610-85-7 227610-86-8 227610-87-9 227610-88-0 227610-89-1 227610-90-4 227610-91-5 227610-92-6 227610-93-7 227610-94-8 227610-95-9 227610-96-0 227610-97-1 227610-98-2 227610-99-3 227611-00-9 227611-01-0 227611-02-1 227611-03-2 227611-04-3 227611-05-4 227611-06-5 227611-07-6 227611-08-7 227611-09-8 227611-10-1 227611-11-2 227611-12-3 227611-13-4 227611-14-5				

227611-15-6 227611-16-7 227611-17-8 227611-18-9 227611-19-0  
 227611-20-3 227611-21-4 227611-22-5 227611-23-6 227611-24-7  
 227611-25-8 227611-26-9 227611-27-0 227611-28-1 227611-29-2  
 227611-30-5 227611-31-6 227611-32-7 227611-33-8 227611-34-9  
 227611-35-0 227611-36-1 227611-37-2 227611-38-3 227611-39-4  
 227611-40-7 227611-41-8 227611-42-9 227611-43-0 227611-44-1  
 227611-45-2 227611-46-3 227611-47-4 227611-48-5 227611-49-6  
 227611-50-9, 1H-Imidazo[1,2-b]pyrazol-7-amine 227611-51-0 227611-52-1  
 227611-53-2 227611-54-3 227611-55-4 227611-56-5 227611-57-6  
 227611-58-7 227611-59-8 227611-60-1 227611-61-2 227611-62-3  
 227611-63-4 227611-64-5 227611-65-6 227611-66-7,  
 1H-Imidazo[1,2-b]pyrazole-6,7-diamine 227611-67-8 227611-68-9  
 227611-69-0 227611-70-3 227611-71-4 227611-72-5 227611-73-6  
 227611-74-7 227611-75-8 227611-76-9 227611-77-0 227611-78-1  
 227611-79-2 227611-80-5 227611-81-6

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye prepns. contg. pyrazolo-azole derivs.)

IT 227611-82-7P 227611-85-0P 227611-90-7P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(oxidative hair dye prepns. contg. pyrazolo-azole derivs.)

IT 78-39-7, Ethyl orthoacetate 104-15-4, reactions 108-24-7, Acetic anhydride 110-46-3, Isopentyl nitrite 124-41-4, Sodium methylate 621-62-5, Chloroacetaldehyde diethylacetal 1118-61-2, 3-Aminocrotonitrile 2231-57-4, Thiocarbazide 4755-81-1, Methyl 2-chloroacetoacetate 5470-11-1, Hydroxylamine hydrochloride 7697-37-2, Nitric acid, reactions 7727-54-0, Ammonium persulfate 10025-87-3, Phosphoryl chloride 14011-37-1, Hydrazine hydrochloride 31230-17-8, 5-Amino-3-methylpyrazole

RL: RCT (Reactant)

(oxidative hair dye prepns. contg. pyrazolo-azole derivs.)

IT 42351-81-5P 42351-83-7P 42351-84-8P 83725-05-7P 93846-27-6P  
111628-45-6P 126782-74-9P 197356-57-3P 227611-84-9P 227611-86-1P  
227611-87-2P 227611-88-3P 227611-89-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(oxidative hair dye prepns. contg. pyrazolo-azole derivs.)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) L'Oreal; WO 9735551 A 1997 HCPLUS

(2) Wella; WO 9307849 A 1993 HCPLUS

IT 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye prepns. contg. pyrazolo-azole derivs.)

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 31 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:282060 HCPLUS

DN 130:316430

TI Oxidative hair dye compositions containing oxidoreductase-type enzymes

IN Lang, Gerard; Cotteret, Jean

PA L'Oreal, Fr.

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9920236	A1	19990429	WO 1998-FR2231	19981016
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769835	A1	19990423	FR 1997-13243	19971022
	FR 2769835	B1	19991126		
	AU 9895463	A1	19990510	AU 1998-95463	19981016
	AU 715964	B2	20000210		
	BR 9806283	A	20000215	BR 1998-6283	19981016
	EP 981322	A1	20000301	EP 1998-949073	19981016
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000516266	T2	20001205	JP 1999-523369	19981016
PRAI	FR 1997-13243	A	19971022		
	WO 1998-FR2231	W	19981016		
OS	MARPAT 130:316430				
AB	A ready-to-use oxidn. dyeing compn. for keratin fibers, and in particular for human keratin fibers such as hair comprise, in an appropriate dyeing medium, at least an auto-oxidizable dye, and at least an oxidoreductase-type enzyme with two electrons in the presence of at least a donor for said enzyme, and the dyeing method using said compn. A hair dye compn. contained 5,6-dihydroxyindole hydrobromide 1.2, uricase (20 IU/mg) 1.5, uric acid 1.5, and water and excipients q.s. 100%. The compn. is applied on the hair for 30 min followed by washing and drying to obtain a blond color.				
ST	oxidative hair dye oxidoreductase enzyme; uric acid hydroxyindole oxidative hair dye; uricase hydroxyindole oxidative hair dye				
IT	Organic solvents (1soxidative hair dye compns. contg. oxidoreductase-type enzymes)				
IT	Oxidative hair dyes (oxidative hair dye compns. contg. oxidoreductase-type enzymes)				
IT	Enzymes, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (oxidative hair dye compns. contg. oxidoreductase-type enzymes)				
IT	69-93-2, Uric acid, biological studies 533-73-3, 1,2,4-Trihydroxybenzene 1124-09-0, 1-Methyl-2,4,5-trihydroxybenzene 2380-82-7, 5-Methoxy-6-hydroxyindole 3131-52-0, 5,6-Dihydroxyindole 4790-08-3, 5,6-Dihydroxyindole 2-carboxylic acid 4813-45-0, 3-Methyl-5,6-dihydroxyindole 4821-00-5, 1-Methyl-5,6-dihydroxyindole 4821-01-6, 2-Methyl-5,6-dihydroxyindole 5107-75-5, 2,3-Dimethyl-5,6-				

dihydroxyindole 9001-37-0, Glucose oxidase  
 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase  
 9003-99-0, Peroxidase 9028-72-2, Lactate oxidase  
 9055-15-6, Oxidoreductase 15069-79-1,  
 5,6-Diacetoxypyridine 15872-73-8 29539-03-5, 5,6-Dihydroxyindoline  
 37250-80-9, Pyranose oxidase 38213-78-4, 2,6-Diamino-4-  
 diethylaminophenol 69669-73-4, Glycerol oxidase 72584-61-3  
 89532-67-2 113370-02-8, 5-Acetoxy-6-hydroxyindole 139721-20-3  
 139721-21-4 223569-35-5 223569-36-6  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Novo Nordisk A/S; WO 9737633 A 1997 HCPLUS  
 (2) Wella AG; EP 0795313 A 1997 HCPLUS  
 (3) Yamahatsu Sangyo Kaisha Ltd; EP 0716846 A 1996 HCPLUS

IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase  
 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes)

RN 9001-37-0 HCPLUS

CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 32 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:282059 HCPLUS

DN 130:316429

TI Oxidative hair dye comprising a direct cationic dye and a direct nitrated benzene dye

IN Rondeau, Christine

PA L'Oreal, Fr.

SO PCT Int. Appl., 74 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9920235	A1	19990429	WO 1998-FR2145	19981007
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,			

FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

AU 9894474	A1	19990510	AU 1998-94474	19981007
AU 730009	B2	20010222		
BR 9806716	A	20000404	BR 1998-6716	19981007
JP 2000505841	T2	20000516	JP 1999-523337	19981007
EP 999823	A1	20000517	EP 1998-947623	19981007

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI

NO 9903053	A	19990820	NO 1999-3053	19990621
US 2002004956	A1	20020117	US 1999-331252	19990816

PRAI FR 1997-13240 A 19971022

WO 1998-FR2145 W 19981007

OS MARPAT 130:316429

AB A ready-to-use compn. for dyeing keratin fibers, and in particular human keratin fibers such as hair comprising, in an appropriate dyeing medium, at least a direct cationic dye properly selected, and at least a direct nitrated benzene dye, and the dyeing method using said compn. are disclosed. A hair dye compn. contained 2-amino-5-hydroxy nitrobenzene 0.35, a direct cationic orange dye 0.065, water and excipients q.s. 100%. The compn. is applied on the hair for 30 min, then washed and dried to obtain a copper color.

ST oxidative hair dye direct cationic dye; benzene dye oxidative hair dye

IT Bromates

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(alkali metal salts; oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

IT Direct dyes

(cationic; oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

IT Cationic dyes

(direct; oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

IT Salts, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(of peroxy acids; oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

IT Coupling agents

Organic solvents

Oxidative hair dyes

Oxidizing agents

(oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

IT Enzymes, biological studies

Peroxysulfates

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

IT Group IIIA element compounds

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(perborates; oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

IT 51-17-2D, Benzimidazole, derivs. 69-93-2, Uric acid, biological studies 95-54-5D, 1,2-Benzenediamine, derivs. 99-56-9, 3,4-Diaminonitrobenzene 99-57-0 106-50-3D, 1,4-Benzenediamine, derivs. 108-45-2D, 1,3-Benzenediamine, derivs. 110-86-1D, Pyridine, derivs.

119-34-6 121-88-0 123-30-8D, derivs. 124-43-6 288-13-1D, Pyrazole,  
 derivs. 289-95-2D, Pyrimidine, derivs. 570-24-1 591-27-5D, derivs.  
 603-85-0, 2-Amino-3-hydroxynitrobenzene 610-81-1, 2-Amino-5-  
 hydroxynitrobenzene 2784-94-3 2871-01-4 2973-21-9 4926-55-0  
 5131-58-8, 2,4-Diaminonitrobenzene 5307-14-2, 2,5-Diaminonitrobenzene  
 5735-53-5D, Benzomorpholine, derivs. 6358-09-4 6687-56-5 7722-84-1,  
 Hydrogen peroxide (H2O2), biological studies 9001-37-0,  
 Glucose oxidase 9001-96-1, Pyruvate oxidase  
 9002-12-4, Uricase 9028-72-2, Lactate oxidase  
**9055-15-6, Oxidoreductase** 10228-03-2 13556-31-5  
 13586-81-7 21425-62-7 24455-89-8 24455-90-1 24905-87-1  
 27080-42-8 29705-39-3 33229-34-4 37250-80-9, Pyranose oxidase  
 39838-87-4 42476-20-0 50610-28-1 50982-74-6 51138-16-0  
 54940-81-7 56932-44-6 57524-53-5 59820-43-8 59820-63-2  
 62163-15-9 63810-68-4 64651-39-4 65235-31-6 66095-81-6  
 66748-37-6 68259-00-7 68912-02-7 69669-73-4, Glycerol  
 oxidase 73447-48-0 75655-00-4 77061-58-6 80062-31-3 81608-25-5  
 81612-54-6 82576-74-7 82576-75-8 82856-89-1 82856-91-5  
 82857-00-9 83950-26-9 84041-77-0 84741-77-5 84912-24-3  
 85765-48-6 86419-67-2 86419-68-3 86419-73-0 86419-75-2  
 86419-76-3 89923-52-4 92888-19-2 92952-81-3 93633-79-5  
 93940-65-9 95576-85-5 97404-02-9 97406-09-2 99133-38-7  
 100418-33-5 104226-19-9 109023-83-8 109220-25-9 131657-78-8  
 141973-33-3 143084-49-5 160598-04-9 161328-83-2 161328-85-4  
 161328-86-5 161328-87-6 161328-89-8 161328-91-2 161328-92-3  
 161328-94-5 161328-95-6 161328-96-7 161328-99-0 161329-01-7  
 161329-02-8 161329-04-0 161329-05-1 161329-06-2 161329-07-3  
 161329-08-4 161329-09-5 161329-15-3 161329-16-4 161329-17-5  
 161329-18-6 161329-22-2 161329-23-3 161329-25-5 161329-26-6  
 161329-27-7 161329-28-8 161329-29-9 161329-30-2 161329-31-3  
 161329-35-7 161329-37-9 161329-38-0 161329-39-1 161329-40-4  
 161329-42-6 161329-43-7 161329-44-8 161329-45-9 161329-47-1  
 161329-49-3 167382-76-5 167382-77-6 167382-78-7 167382-79-8  
 167382-80-1 167382-82-3 167382-83-4 167382-87-8 167382-88-9  
 167382-95-8 167382-96-9 167382-97-0 167382-98-1 167382-99-2  
 178822-03-2 178822-05-4 211050-61-2 223577-35-3 223577-36-4  
 223577-37-5 223577-38-6 223577-39-7 223577-40-0 223577-41-1  
 223577-42-2 223577-43-3 223577-44-4

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Lang, G; US 3985499 A 1976 HCAPLUS

(2) Lang, G; US 4025301 A 1977 HCAPLUS

IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase

**9055-15-6, Oxidoreductase**

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye comprising direct cationic dye and direct nitrated benzene dye)

RN 9001-37-0 HCAPLUS

CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCAPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCAPLUS  
 CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 33 OF 53 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1999:282058 HCAPLUS  
 DN 130:316428  
 TI Oxidative hair dye comprising a cationic direct dye and an auto-oxidizable dye  
 IN Lang, Gerard; Audousset, Marie-Pascale  
 PA L'Oreal, Fr.  
 SO PCT Int. Appl., 70 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9920234	A1	19990429	WO 1998-FR2144	19981007
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9894473	A1	19990510	AU 1998-94473	19981007
	AU 730008	B2	20010222		
	EP 971682	A1	20000119	EP 1998-947622	19981007
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	BR 9806825	A	20000425	BR 1998-6825	19981007
	JP 2000516265	T2	20001205	JP 1999-523336	19981007
PRAI	FR 1997-13242	A	19971022		
	WO 1998-FR2144	W	19981007		
OS	MARPAT 130:316428				
AB	A ready-to-use compn. for dyeing keratin fibers, and in particular human keratin fibers such as hair comprising, in an appropriate dyeing medium, at least a cationic direct dye, and at least an auto-oxidizable dye, and the dyeing method using said compn. is disclosed. A hair dye compn. contained 5,6-dihydroxyindoline hydrobromide 0.7, cationic direct Basic Red 76 0.1, water and excipients q.s. 100%. The compn. is applied on the hair for 30 min, then washed and dried to obtain a red blond color.				
ST	oxidative hair dye cationic direct dye; hydroxyindoline oxidative hair dye Basic Red				
IT	Bromates				
	RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(alkali metal; oxidative hair dye comprising cationic direct dye and auto-oxidizable dye)				
IT	Direct dyes				
	(cationic; oxidative hair dye comprising cationic direct dye and auto-oxidizable dye)				
IT	Cationic dyes				
	(direct; oxidative hair dye comprising cationic direct dye and auto-oxidizable dye)				

IT Salts, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (of peroxy acids; oxidative hair dye comprising cationic direct dye and auto-oxidizable dye)

IT Coupling agents  
 Organic solvents  
 Oxidative hair dyes  
 Oxidizing agents  
 (oxidative hair dye comprising cationic direct dye and auto-oxidizable dye)

IT Enzymes, biological studies  
 Peroxysulfates  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye comprising cationic direct dye and auto-oxidizable dye)

IT Group IIIA element compounds  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (perborates; oxidative hair dye comprising cationic direct dye and auto-oxidizable dye)

IT 51-17-2D, Benzimidazole, derivs. 69-93-2, Uric acid, biological studies 95-54-5D, 1,2-Benzenediamine, derivs. 95-55-6D, derivs. 106-50-3D, 1,4-Benzene diamine, derivs. 108-45-2D, 1,3-Benzene diamine, derivs. 110-86-1D, Pyridine, derivs. 123-30-8D, derivs. 124-43-6 289-95-2D, Pyrimidine, derivs. 533-31-3D, Sesamol, derivs. 533-73-3, 1,2,4-Trihydroxybenzene 591-27-5D, derivs. 965-47-9 1124-09-0, 1-Methyl-2,4,5-trihydroxybenzene 3131-52-0, 5,6-Dihydroxyindole 4790-08-3 4813-45-0, 3-Methyl5,6-Dihydroxyindole 4821-00-5, 1-Methyl5,6-Dihydroxyindole 4821-01-6, 2-Methyl5,6-Dihydroxyindole 5107-75-5, 2,3-DiMethyl5,6-Dihydroxyindole 5735-53-5D, Benzomorpholine, derivs. 6687-56-5 7722-84-1, Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>), biological studies 9002-12-4, Uricase 9003-99-0, Peroxidase 9055-15-6, Oxidoreductase 15069-79-1, 5,6-Diacetoxyindole 15872-73-8 26381-41-9 29539-03-5, 5,6-Dihydroxyindoline 36118-45-3D, Pyrazoline, derivs. 38213-78-4 39838-87-4 42476-20-0 54940-81-7 62163-15-9 64651-39-4 68123-13-7 68259-00-7 68391-30-0 68391-31-1 68912-02-7 71134-97-9 72584-61-3 73447-48-0 74795-36-1, 5-Methoxy-6-hydroxyindoline 75655-00-4 77061-58-6 83950-26-9 84912-24-3 89532-67-2 89923-52-4 92888-19-2 93940-65-9 97404-02-9 97406-09-2 109220-25-9 113370-02-8, 5-Acetoxy-6-hydroxyindole 138937-28-7, 5,6-Dihydroxyindoline hydrobromide 139721-20-3 139721-21-4 143084-49-5 160598-04-9 161328-83-2 161328-85-4 161328-86-5 161328-87-6 161328-89-8 161328-91-2 161328-92-3 161328-94-5 161328-95-6 161328-96-7 161329-01-7 161329-02-8 161329-04-0 161329-05-1 161329-06-2 161329-07-3 161329-08-4 161329-09-5 161329-15-3 161329-16-4 161329-17-5 161329-18-6 161329-22-2 161329-23-3 161329-25-5 161329-26-6 161329-27-7 161329-28-8 161329-29-9 161329-30-2 161329-31-3 161329-35-7 161329-37-9 161329-38-0 161329-39-1 161329-40-4 161329-42-6 161329-43-7 161329-44-8 161329-45-9 161329-47-1 161329-49-3 167382-76-5 167382-77-6 167382-78-7 167382-79-8 167382-80-1 167382-82-3 167382-83-4 167382-87-8 167382-88-9 167382-95-8 167382-96-9 167382-97-0 167382-98-1 167382-99-2 178822-05-4 211050-61-2 223569-36-6 223671-96-3  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye comprising cationic direct

(dye and auto-oxidizable dye)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Lang, G; US 3985499 A 1976 HCAPLUS

(2) Lang, G; US 4025301 A 1977 HCAPLUS

IT 9002-12-4, Uricase 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)(oxidative hair dye comprising cationic direct  
dye and auto-oxidizable dye)

RN 9002-12-4 HCAPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCAPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 34 OF 53 HCAPLUS COPYRIGHT 2002 ACS

AN 1999:244549 HCAPLUS

DN 130:286801

TI Oxidative hair dye compositions containing  
oxidoreductase-type enzymes, oxidation bases, and coupling  
agents

IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille

PA L'Oreal, Fr.

SO PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917733	A1	19990415	WO 1998-FR2078	19980928
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769210	A1	19990409	FR 1997-12350	19971003
	FR 2769210	B1	20000211		
	AU 9893542	A1	19990427	AU 1998-93542	19980928
	AU 730735	B2	20010315		
	EP 969799	A1	20000112	EP 1998-946519	19980928
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9806218	A	20000418	BR 1998-6218	19980928
	JP 2000507990	T2	20000627	JP 1999-521120	19980928
	NO 9902649	A	19990730	NO 1999-2649	19990601
	US 6342078	B1	20020129	US 1999-319203	19990630
	US 2002010966	A1	20020131		
PRAI	FR 1997-12350	A	19971003		
	WO 1998-FR2078	W	19980928		
OS	MARPAT	130:286801			

AB A ready-to-use oxidn. dyeing compn. for keratin fibers, and in particular for human keratin fibers such as hair comprise, in a medium appropriate for dyeing, at least an oxidn. base, at least a substituted meta-phenylenediamine as first coupling agent, and at least a second coupling agent selected among meta-aminophenols and meta-diphenols, and at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme. A hair dye compn. contained para-phenylenediamine 0.216, (2,4-diamino-1-.beta.-hydroxyethoxy)benzene.2HCl 0.048, 1,3-dihydroxybenzene 0.198, uricase (20 IU/mg) 1.5, uric acid 1.5, excipients and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme base; coupling agent oxidative hair dye oxidoreductase

IT Coupling agents  
Organic solvents  
Oxidative hair dyes  
Oxidizing agents  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes, oxidn. bases, and coupling agents)

IT Enzymes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes, oxidn. bases, and coupling agents)

IT 69-93-2, Uric acid, biological studies 90-01-7,  
2-Hydroxy-methylphenol 92-65-9 93-05-0, N,N-Diethyl p-phenylenediamine 95-55-6, 2-Aminophenol 95-70-5 95-88-5, 4-Chloro 1,3-dihydroxybenzene 99-98-9, N,N-Dimethyl p-phenylenediamine 101-54-2, N-(Phenyl)p-phenylenediamine 106-50-3, 1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzene diaminne, biological studies 108-46-3, 1,3-Benzenediol, biological studies 110-86-1D, Pyridine, derivs. 123-30-8 148-71-0, 4-Amino-N,N-Diethyl 3-methyl aniline 288-13-1D, Pyrazole, derivs. 289-95-2D, Pyrimidine, derivs. 399-95-1, 4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluorophenol 537-65-5 591-27-5 591-27-5D, derivs. 608-25-3 615-66-7, 2-Chloro p-phenylenediamine 1630-11-1, 2,6-Diethyl p-phenylenediamine 1687-53-2, 5-Amino-2-Methoxy-phenol 2359-52-6 2359-53-7 2835-95-2, 5-Amino-2-methylphenol 2835-96-3, 4-Amino-2-methylphenol 2835-98-5, 2-Amino-5-methylphenol 2835-99-6, 4-Amino-3-methylphenol 5306-96-7, 2,3-Dimethyl p-phenylenediamine 5862-77-1 5862-80-6 6201-65-6, 2-Chloro 1,3-dihydroxybenzene 6393-01-7, 2,5-Dimethyl p-phenylenediamine 7218-02-2, 2,6-Dimethyl p-phenylenediamine 7575-35-1, N,N-Bis(.beta.-hydroxyethyl) p-phenylenediamine 9001-37-0, Glucose oxidase 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase 9003-99-0, Peroxidase 9028-72-2, Lactate oxidase 9055-15-6, Oxidoreductase 14791-78-7, 2-Fluoro-p-phenylenediamine 17672-22-9, 2-Amino-6-methylphenol 29785-47-5, 4-Amino-2-methoxymethylphenol 37250-80-9, Pyranose oxidase 55302-96-0 63969-43-7 66422-95-5 66566-48-1 69669-73-4, Glycerol oxidase 70643-19-5 73793-80-3, 2-Hydroxymethyl p-phenylenediamine 75513-65-4 78661-33-3 79352-72-0 80467-77-2 81892-72-0 83763-47-7 86817-42-7 93841-24-8, 2-.beta.-Hydroxyethyl p-phenylenediamine 97902-52-8, 2-Isopropyl p-phenylenediamine 104752-49-0 104752-50-3 105293-89-8, N,N-Dipropyl p-phenylenediamine 105607-68-9 110102-86-8, 5-Amino-4-chloro-2-methylphenol 110952-46-0 114109-54-5, 5-Amino-2,4-dimethoxy-phenol

115423-85-3 126335-43-1 128729-31-7 129697-50-3 130028-72-7  
 130582-53-5 135855-34-4 135855-35-5 137290-78-9,  
 5-Amino-4-methoxy-2-methylphenol 137290-86-9 141614-04-2 141614-05-3  
 146658-65-3, 5-(.gamma.-Hydroxypropylamino)-2-methylphenol 168092-23-7  
 168202-61-7 207568-58-9 221110-58-3 222849-57-2

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. contg.

**oxidoreductase-type enzymes, oxidn. bases, and coupling agents**)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Tsujino, Y; US 4961925 A 1990 HCPLUS  
 (2) Wella Ag; EP 0795313 A 1997 HCPLUS  
 (3) Yamahatsu Sangyo K Ltd; EP 0716846 A 1996 HCPLUS

IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase  
 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. contg.

**oxidoreductase-type enzymes, oxidn. bases, and coupling agents**)

RN 9001-37-0 HCPLUS

CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 35 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:244548 HCPLUS

DN 130:286800

TI Oxidative hair dye compositions containing  
**oxidoreductase-type enzymes, oxidation bases, and coupling agents**

IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille

PA LOreal, Fr.

SO PCT Int. Appl., 23 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917732	A1	19990415	WO 1998-FR2077	19980928
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,			
		DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE,			
		KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW,			
		MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,			
		TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,			
		FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,			

CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FR 2769212	A1	19990409	FR 1997-12352	19971003
FR 2769212	B1	20000211		
AU 9893541	A1	19990427	AU 1998-93541	19980928
AU 732954	B2	20010503		
EP 973489	A1	20000126	EP 1998-946518	19980928
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9806216	A	20000418	BR 1998-6216	19980928
JP 2000507989	T2	20000627	JP 1999-521119	19980928
NO 9902648	A	19990630	NO 1999-2648	19990601
US 2002002747	A1	20020110	US 1999-319165	19990630

PRAI FR 1997-12352 A 19971003  
 WO 1998-FR2077 W 19980928

OS MARPAT 130:286800

AB A ready-to-use oxidn. dyeing compn. for keratin fibers, and in particular human keratin fibers such as hair comprise, in a medium appropriate for dyeing, para-phenylenediamine as first oxidn. base, at least a para-aminophenol as second oxidn. base, 2-Me 5-N-(.beta.-hydroxyethyl)amino phenol (I) as coupling agent, and at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, p-phenylenediamine 0.216, para-aminophenol 0.1, I 0.18, ethanol 20.0, hydroxyethyl cellulose 1.0, Oramix CG110 8.0, monoethanolamine q.s. pH = 9.5, excipients and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme base; coupling agent hair dye oxidoreductase enzyme

IT Coupling agents  
 Organic solvents  
 Oxidative hair dyes  
 Oxidizing agents  
     (oxidative hair dye compns. contg.  
     oxidoreductase-type enzymes, oxidn. bases, and coupling agents)

IT Enzymes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
     (oxidative hair dye compns. contg.  
     oxidoreductase-type enzymes, oxidn. bases, and coupling agents)

IT 69-93-2, Uric acid, biological studies 90-01-7,  
 2-Hydroxy-methylphenol 106-50-3, p-Phenylenediamine, biological studies 123-30-8, p-Aminophenol 399-95-1, 4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluorophenol 2835-96-3, 4-Amino-2-methylphenol 2835-99-6, 4-Amino-3-methylphenol 9001-37-0, Glucose oxidase 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase 9028-72-2, Lactate oxidase 9055-15-6, Oxidoreductase 29785-47-5, 4-Amino-2-methoxymethylphenol 37250-80-9, Pyranose oxidase 55302-96-0, 2-Methyl 5-N-(.beta.-hydroxyethyl)amino phenol 69669-73-4, Glycerol oxidase 79352-72-0 110952-46-0 168202-61-7  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
     (oxidative hair dye compns. contg.  
     oxidoreductase-type enzymes, oxidn. bases, and coupling agents)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Tsujino, Y; US 4961925 A 1990 HCPLUS  
 (2) Wella Ag; EP 0795313 A 1997 HCPLUS  
 (3) Yamahatsu Sangyo K Ltd; EP 0716846 A 1996 HCPLUS  
 IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase  
 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes, oxidn. bases, and coupling  
 agents)

RN 9001-37-0 HCPLUS

CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 36 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:244547 HCPLUS

DN 130:286799

TI Oxidative hair dye compositions containing  
oxidoreductase-type enzymes and oxidation bases

IN Maubru, Mireille

PA L'Oreal, Fr.

SO PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917731	A1	19990415	WO 1998-FR2076	19980928
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769214	A1	19990409	FR 1997-12354	19971003
	FR 2769214	B1	19991217		
	AU 9893540	A1	19990427	AU 1998-93540	19980928
	AU 732786	B2	20010426		
	BR 9806175	A	19991019	BR 1998-6175	19980928
	EP 998260	A1	20000510	EP 1998-946517	19980928
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000507988	T2	20000627	JP 1999-521118	19980928
	NO 9902647	A	19990730	NO 1999-2647	19990601
	US 6312479	B1	20011106	US 1999-319205	19990602

US 2001049850 A1 20011213  
 PRAI FR 1997-12354 A 19971003  
 WO 1998-FR2076 W 19980928  
 OS MARPAT 130:286799  
 AB A ready-to-use oxidn. dyeing compn. for keratin fibers, and in particular for human keratin fibers such as hair comprise, in a medium appropriate for dyeing, at least an oxidn. base, 2-amino-3-hydroxy pyridine (I) as coupling agent, and at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, p-phenylenediamine 0.30, I 0.30, excipients and water q.s. 100 g.  
 ST oxidative hair dye oxidoreductase enzyme  
 aminopyridine  
 IT Anionic surfactants  
     Coupling agents  
     Organic solvents  
     Oxidative hair dyes  
     Oxidizing agents  
         (oxidative hair dye compns. contg.  
         oxidoreductase-type enzymes and oxidn. bases)  
 IT Enzymes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
     (oxidative hair dye compns. contg.  
     oxidoreductase-type enzymes and oxidn. bases)  
 IT 69-93-2, Uric acid, biological studies 90-01-7,  
 2-Hydroxy-methylphenol 92-65-9 93-05-0, N,N-Diethyl p-phenylenediamine 95-70-5 99-98-9, N,N-Dimethyl p-phenylenediamine 101-54-2, N-(Phenyl) p-phenylenediamine 106-50-3, 1,4-Benzenediamine, biological studies 110-86-1D, Pyridine, derivs. 123-30-8 148-71-0, 4-Amino-N,N-Diethyl 3-methyl aniline 288-13-1D, Pyrazole, derivs. 289-95-2D, Pyrimidine, derivs. 399-95-1, 4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluorophenol 537-65-5 615-66-7, 2-Chloro p-phenylenediamine 1630-11-1, 2,6-Diethyl p-phenylenediamine 2359-52-6 2359-53-7 2835-96-3, 4-Amino-2-methylphenol 2835-98-5D, 2-Amino-5-methylphenol, derivs. 2835-99-6, 4-Amino-3-methylphenol 5306-96-7, 2,3-Dimethyl p-phenylenediamine 5862-80-6 6393-01-7, 2,5-Dimethyl p-phenylenediamine 7218-02-2, 2,6-Dimethyl p-phenylenediamine 7575-35-1, N,N-Bis-(.beta.-hydroxyethyl) p-phenylenediamine 9001-37-0, Glucose oxidase 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase 9003-99-0, Peroxidase 9028-72-2, Lactate oxidase 9055-15-6, Oxidoreductase 14791-78-7, 2-Fluoro-p-phenylenediamine 16867-03-1, 2-Amino-3-hydroxy pyridine 17672-22-9, 2-Amino-6-Methyl-phenol 29785-47-5, 4-Amino-2-methoxymethylphenol 37250-80-9, Pyranose oxidase 63969-43-7 66566-48-1 69669-73-4, Glycerol oxidase 73793-80-3, 2-Hydroxymethyl p-phenylenediamine 79352-72-0 80467-77-2 93841-24-8, 2-.beta.-Hydroxyethyl p-phenylenediamine 97902-52-8, 2-Isopropyl p-phenylenediamine 105293-89-8, N,N-Dipropyl p-phenylenediamine 105607-68-9 110952-46-0 126335-43-1 128729-31-7 129697-50-3 130582-53-5 135855-35-5 168202-61-7 207568-58-9 221110-58-3 222849-57-2  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
     (oxidative hair dye compns. contg.  
     oxidoreductase-type enzymes and oxidn. bases)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

(1) Kaisha, Y; EP 0716846 A 1996 HCAPLUS  
 (2) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCAPLUS  
 (3) L'Oreal; EP 0766958 A 1997 HCAPLUS  
 (4) Procter & Gamble; WO 9724105 A 1997 HCAPLUS  
 IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase  
 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and oxidn. bases)  
 RN 9001-37-0 HCAPLUS  
 CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCAPLUS  
 CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCAPLUS  
 CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 37 OF 53 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1999:244546 HCAPLUS  
 DN 130:301479  
 TI Oxidative hair dye compositions containing  
 oxidoreductase-type enzymes, oxidation bases, and direct cationic  
 dyes  
 IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille  
 PA L'Oreal, Fr.  
 SO PCT Int. Appl., 83 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917730	A1	19990415	WO 1998-FR2075	19980928
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769213	A1	19990409	FR 1997-12353	19971003
	FR 2769213	B1	19991217		
	AU 9893539	A1	19990427	AU 1998-93539	19980928
	AU 732773	B2	20010426		
	EP 969798	A1	20000112	EP 1998-946516	19980928
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9806205	A	20000215	BR 1998-6205	19980928
	JP 2000507987	T2	20000627	JP 1999-521117	19980928
	NO 9902646	A	19990712	NO 1999-2646	19990601
	US 6228129	B1	20010508	US 1999-319166	19990701

PRAI FR 1997-12353 A 19971003  
WO 1998-FR2075 W 19980928

OS MARPAT 130:301479

AB A ready-to-use oxidn. dyeing compn. for keratin fibers, and in particular for human keratin fibers such as hair comprise, in a medium appropriate for dyeing at least an oxidn. base, at least a direct cationic dye, and at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme. A hair dye compn. contained para-phenylenediamine 0.7, 2-(4-methylaminophenylazo)-1,3-dimethylimidazolium chloride 0.6, uricase (20 IU/mg) 1.5, uric acid 1.5, excipients and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme base; direct cationic dye oxidative hair dye

IT Direct dyes

(azo, cationic; oxidative hair dye compns. contg. oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

IT Cationic dyes

(azo; oxidative hair dye compns. contg. oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

IT Azo dyes

(cationic; oxidative hair dye compns. contg. oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

IT Azo dyes

(direct, cationic; oxidative hair dye compns. contg. oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

IT Anthraquinone dyes

Disazo dyes

Organic solvents

Oxidative hair dyes

Oxidizing agents

(oxidative hair dye compns. contg. oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

IT Enzymes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. contg. oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

IT 69-93-2, Uric acid, biological studies 90-01-7,  
2-Hydroxy-methylphenol 92-65-9 93-05-0, N,N-Diethyl p-phenylenediamine  
95-55-6, 2-Aminophenol 95-70-5 99-98-9, N,N-Dimethyl  
p-phenylenediamine 101-54-2, N-(Phenyl) p-phenylenediamine 106-50-3,  
1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine,  
biological studies 110-86-1D, Pyridine, derivs. 123-30-8 148-71-0,  
4-Amino-N,N-Diethyl 3-methyl aniline 288-13-1D, Pyrazole, derivs.  
289-95-2D, Pyrimidine, derivs. 399-95-1, 4-Amino-3-fluorophenol  
399-96-2, 4-Amino-2-fluorophenol 537-65-5 591-27-5 591-27-5D,  
derivs. 615-66-7, 2-Chloro p-phenylenediamine 1630-11-1, 2,6-Diethyl  
p-phenylenediamine 2359-52-6 2359-53-7 2835-96-3,  
4-Amino-2-methylphenol 2835-98-5, 2-Amino-5-methylphenol 2835-99-6,  
4-Amino-3-methylphenol 5306-96-7, 2,3-Dimethyl p-phenylenediamine  
5862-80-6 6393-01-7, 2,5-Dimethyl p-phenylenediamine 6687-56-5  
7218-02-2, 2,6-Dimethyl p-phenylenediamine 7575-35-1,

N,N-Bis-(.beta.-hydroxyethyl) p-phenylenediamine 9001-37-0,  
 Glucose oxidase 9001-96-1, Pyruvate oxidase  
 9002-12-4, Uricase 9003-99-0, Peroxidase 9028-72-2,  
 Lactate oxidase 9055-15-6, Oxidoreductase  
 14791-78-7, 2-Fluoro-p-phenylenediamine 17672-22-9, 2-Amino-6-methylphenol 26381-41-9 29785-47-5, 4-Amino-2-methoxymethylphenol 37250-80-9, Pyranose oxidase 39838-87-4 42476-20-0 54940-81-7 55302-96-0D, 5-N-(.beta.-hydroxyethyl)amino-2-methylphenol 62163-15-9 63969-43-7 64651-39-4 66566-48-1 68123-13-7 68259-00-7 68391-30-0, Basic red 76 68391-31-1 68912-02-7 69669-73-4, Glycerol oxidase 71134-97-9 73287-60-2 73447-48-0 73793-80-3, 2-Hydroxymethyl p-phenylenediamine 75655-00-4 77061-58-6 79352-72-0 80467-77-2 83950-26-9 84912-24-3 89923-52-4 92888-19-2 93841-24-8, 2-.beta.-Hydroxyethyl p-phenylenediamine 93940-65-9 97404-02-9 97406-09-2 97902-52-8, 2-Isopropyl p-phenylenediamine 105293-89-8, N,N-Dipropyl p-phenylenediamine 105607-68-9 109220-25-9 110952-46-0 126335-43-1 128729-30-6 128729-31-7 129697-50-3 130582-53-5 135855-34-4 135855-35-5 143084-49-5 160598-04-9 161328-83-2 161328-85-4 161328-86-5 161328-87-6 161328-89-8 161328-91-2 161328-92-3 161328-94-5 161328-95-6 161328-96-7 161328-99-0 161329-01-7 161329-02-8 161329-05-1 161329-06-2 161329-07-3 161329-08-4 161329-09-5 161329-15-3 161329-16-4 161329-17-5 161329-18-6 161329-22-2 161329-23-3 161329-25-5 161329-26-6 161329-27-7 161329-28-8 161329-29-9 161329-30-2 161329-31-3 161329-35-7 161329-37-9 161329-38-0 161329-39-1 161329-40-4 161329-42-6 161329-43-7 161329-44-8 161329-47-1 161329-49-3 167382-76-5 167382-77-6 167382-78-7 167382-79-8 167382-80-1 167382-82-3 167382-83-4 167382-87-8 167382-88-9 167382-95-8 167382-96-9 167382-97-0 167382-98-1 167382-99-2 168202-61-7 178822-03-2 178822-05-4 207568-58-9 211050-61-2 221110-58-3 223241-29-0 223241-31-4

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. contg.

oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Kaisha, Y; EP 0716846 A 1996 HCPLUS
- (2) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCPLUS
- (3) Oreal; WO 9400100 A 1994 HCPLUS

IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase  
 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. contg.

oxidoreductase-type enzymes, oxidn. bases, and direct cationic dyes)

RN 9001-37-0 HCPLUS

CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 38 OF 53 HCAPLUS COPYRIGHT 2002 ACS  
 AN 1999:244545 HCAPLUS  
 DN 130:286798  
 TI Oxidative hair dye compositions containing  
 oxidoreductase-type enzymes and oxidation bases  
 IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille  
 PA L'Oreal, Fr.  
 SO PCT Int. Appl., 37 pp.

*X applicants*

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917729	A1	19990415	WO 1998-FR2074	19980928
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM; AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769211	A1	19990409	FR 1997-12351	19971003
	FR 2769211	B1	19991224		
	AU 9893538	A1	19990427	AU 1998-93538	19980928
	AU 730765	B2	20010315		
	BR 9806206	A	20000418	BR 1998-6206	19980928
	EP 998259	A1	20000510	EP 1998-946515	19980928
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000507986	T2	20000627	JP 1999-521116	19980928
	NO 9902645	A	19990730	NO 1999-2645	19990601
PRAI	<u>FR 1997-12351</u>	A	<u>19971003</u>		
	WO 1998-FR2074	W	19980928		

OS MARPAT 130:286798

AB A ready-to-use oxidn. dyeing compn. for  
 keratin fibers, and in particular human keratin fibers  
 such as hair comprise, in a medium appropriate for  
 dyeing, at least an oxidn. base selected among  
 para-phenylenediamine derivs., double bases, ortho-aminophenols and  
 heterocyclic bases, at least a second oxidn. base selected among  
 para-aminophenols, at least a meta-aminophenol as coupling  
 agent, and at least an oxidoreductase-type enzyme with 2  
 electrons in the presence of at least a donor for said enzyme. A  
 hair dye compn. contained uricase (20 IU/mg)  
 1.5, uric acid 1.5, 2-.beta.-hydroxyethyl-p-  
 phenylenediamine.2HCl 0.45, p-aminophenol 0.1, excipients and water q.s.  
 100 g.

ST oxidative hair dye oxidoreductase enzyme  
 base

IT Amphoteric surfactants  
 Anionic surfactants  
 Antioxidants  
 Cationic surfactants  
 Coupling agents  
 Nonionic surfactants

Organic solvents  
 Oxidative hair dyes  
 Oxidizing agents  
 Perfumes  
 Permanent wave preparations  
 Permeation enhancers  
 Preservatives  
 Sequestering agents  
 Thickening agents  
 Zwitterionic surfactants  
     (oxidative hair dye compns. contg.  
     **oxidoreductase-type enzymes and oxidn. bases**)  
 IT Enzymes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
     (oxidative hair dye compns. contg.  
     **oxidoreductase-type enzymes and oxidn. bases**)  
 IT 69-93-2, Uric acid, biological studies 90-01-7,  
 2-Hydroxy-methylphenol 92-65-9 93-05-0, N,N-Diethyl p-phenylenediamine  
 95-70-5 99-98-9, N,N-Dimethyl p-phenylenediamine 101-54-2, N-(Phenyl)  
 p-phenylenediamine 106-50-3, 1,4-Benzenediamine, biological studies  
 110-86-1D, Pyridine, derivs. 123-30-8 148-71-0, 4-Amino-N,N-Diethyl  
 3-methyl aniline 288-13-1D, Pyrazole, derivs. 289-95-2D, Pyrimidine,  
 derivs. 399-95-1, 4-Amino-3-fluorophenol 399-96-2,  
 4-Amino-2-fluorophenol 537-65-5 591-27-5D, derivs. 615-66-7,  
 2-Chloro p-phenylenediamine 1630-11-1, 2,6-Diethyl p-phenylenediamine  
 1687-53-2, 5-Amino-2-Methoxy-phenol 2359-52-6 2359-53-7 2835-95-2,  
 5-Amino-2-methylphenol 2835-96-3, 4-Amino-2-methylphenol 2835-99-6,  
 4-Amino-3-methylphenol 5306-96-7, 2,3-Dimethyl p-phenylenediamine  
 5862-80-6 6393-01-7, 2,5-Dimethyl p-phenylenediamine 7218-02-2,  
 2,6-Dimethyl p-phenylenediamine 7575-35-1, N,N-Bis-(.beta.-hydroxyethyl)  
 p-phenylenediamine 9001-37-0, Glucose oxidase  
 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase  
 9003-99-0, Peroxidase 9028-72-2, Lactate oxidase  
 9055-15-6, Oxidoreductase 14791-78-7,  
 2-Fluoro-p-phenylenediamine 29785-47-5, 4-Amino-2-methoxymethylphenol  
 34590-94-8, Dipropylene glycol monomethylether 37250-80-9, Pyranose  
 oxidase 55302-96-0 63969-43-7 66566-48-1 69669-73-4,  
 Glycerol oxidase 73793-80-3, 2-Hydroxymethyl p-phenylenediamine  
 79352-72-0 80467-77-2 86817-42-7 93841-24-8, 2-.beta.-Hydroxyethyl  
 p-phenylenediamine 97902-52-8, 2-Isopropyl p-phenylenediamine  
 105293-89-8, N,N-Dipropyl p-phenylenediamine 105607-68-9 110102-86-8,  
 5-Amino-4-chloro-2-methylphenol 110952-46-0 114109-54-5,  
 5-Amino-2,4-dimethoxy-phenol 126335-43-1 128729-31-7 130582-53-5  
 135855-34-4 135855-35-5 137290-78-9, 5-Amino-4-methoxy-2-methylphenol  
 137290-86-9 146658-65-3, 5-(.gamma.-Hydroxypropylamino)-2-methylphenol  
 160950-38-9 168202-61-7 207568-58-9 221110-58-3 222849-57-2  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
     (oxidative hair dye compns. contg.  
     **oxidoreductase-type enzymes and oxidn. bases**)  
 RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Tsujino, Y; US 4961925 A 1990 HCPLUS  
 (2) Wella Ag; EP 0795313 A 1997 HCPLUS  
 (3) Yamahatsu Sangyo K Ltd; EP 0716846 A 1996 HCPLUS  
 IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase  
 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and oxidn. bases)

RN 9001-37-0 HCPLUS  
CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS  
CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS  
CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 39 OF 53 HCPLUS COPYRIGHT 2002 ACS  
AN 1999:244544 HCPLUS

DN 130:286797

TI Oxidative hair dye compositions containing  
oxidoreductase-type enzymes and glycols

IN Maubru, Mireille

PA L'Oreal, Fr.

SO PCT Int. Appl., 36 pp.  
CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917728	A1	19990415	WO 1998-FR2073	19980928
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769215	A1	19990409	FR 1997-12355	19971003
	FR 2769215	B1	19991224		
	AU 9893537	A1	19990427	AU 1998-93537	19980928
	AU 737852	B2	20010830		
	BR 9806172	A	19991019	BR 1998-6172	19980928
	EP 998258	A1	20000510	EP 1998-946514	19980928
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000507985	T2	20000627	JP 1999-521115	19980928
	NO 9902644	A	19990628	NO 1999-2644	19990601
	US 2002013971	A1	20020207	US 1999-319164	19990629
PRAI	FR 1997-12355	A	19971003		
	WO 1998-FR2073	W	19980928		
OS	MARPAT	130:286797			
AB	A ready-to-use oxidn. dyeing compn. for keratin fibers, and in particular human keratin fibers such as hair comprise, in an appropriate medium for dyeing, at least an oxidn. base, at least a C2 glycol C4-8 ether and/or a C3-9 glycol C1-8 ether and at least an oxidoreductase -type enzyme with 2 electrons in the presence of at least a donor for said				

enzyme. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, p-phenylenediamine 0.324, 1,3-dihydroxybenzene 0.33, propylene glycol monomethyl ether 20.0, hydroxyethyl cellulose 1.0, Oramix CG110 8.0, monoethanolamine q.s. pH = 9.5, and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme  
glycol

IT Amphoteric surfactants  
Anionic surfactants  
Antioxidants  
Cationic surfactants  
Coupling agents  
Nonionic surfactants  
Opacifiers  
Organic solvents  
Oxidative hair dyes  
Oxidizing agents  
Perfumes  
Permanent wave preparations  
Permeation enhancers  
Preservatives  
Sequestering agents  
Thickening agents  
Zwitterionic surfactants  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and glycols)

IT Enzymes, biological studies  
Glycol ethers  
Glycols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and glycols)

IT 69-93-2, Uric acid, biological studies 89-25-8 90-01-7,  
2-Hydroxy-methylphenol 90-15-3, alpha.-Naphthol 92-65-9 93-05-0,  
N,N-Diethyl p-phenylenediamine 95-55-6, 2-Aminophenol 95-55-6D,  
o-Aminophenol, derivs. 95-70-5 95-88-5, 4-Chloro-1,3-dihydroxybenzene  
99-98-9, N,N-Dimethyl p-phenylenediamine 101-54-2, N-(Phenyl)  
p-phenylenediamine 104-68-7, Diethyleneglycol monophenylether  
106-50-3, 1,4-Benzenediamine, biological studies 108-26-9 108-45-2,  
1,3-Benzenediamine, biological studies 108-46-3, 1,3-Benzenediol,  
biological studies 110-86-1D, Pyridine, derivs. 111-77-3,  
Diethyleneglycolmonomethylether 111-90-0, Diethyleneglycolmonoethyl ether  
123-30-8 148-71-0, 4-Amino-N,N-Diethyl 3-methyl aniline 288-13-1D,  
Pyrazole, derivs. 289-95-2D, Pyrimidine, derivs. 399-95-1,  
4-Amino-3-fluorophenol 399-96-2, 4-Amino-2-fluorophenol 533-31-3,  
Sesamol 537-65-5 591-27-5, 3-Aminophenol 608-25-3 615-66-7,  
2-Chloro p-phenylenediamine 1320-67-8, Propyleneglycol monomethylether  
1630-11-1, 2,6-Diethyl p-phenylenediamine 2050-25-1, Diethyleneglycol  
monobenzylether 2359-52-6 2359-53-7 2380-94-1, 4-Hydroxyindole  
2835-95-2, 2-Methyl-5-Aminophenol 2835-96-3, 4-Amino-2-methylphenol  
2835-98-5, 2-Amino-5-methylphenol 2835-99-6, 4-Amino-3-methylphenol  
4664-16-8, 2,6-Dihydroxy 4-methyl pyridine 4770-37-0, 6-Hydroxyindoline  
5306-96-7, 2,3-Dimethyl p-phenylenediamine 5862-80-6 6393-01-7,  
2,5-Dimethyl p-phenylenediamine 7218-02-2, 2,6-Dimethyl  
p-phenylenediamine 7556-37-8 7575-35-1, N,N-Bis-(.beta.-hydroxyethyl)  
p-phenylenediamine 9001-37-0, Glucose oxidase  
9001-96-1, Pyruvate oxidase 9002-12-4, Uricase  
9003-99-0, Peroxidase 9004-62-0, Hydroxyethyl cellulose 9028-72-2,  
Lactate oxidase 9055-15-6, Oxidoreductase

14791-78-7, 2-Fluoro-p-phenylenediamine 17672-22-9, 2-Amino-6-methylphenol 24991-61-5 25498-49-1, Tripropyleneglycolmonomethylether 29785-47-5, 4-Amino-2-methoxymethylphenol 34590-94-8, Dipropyleneglycolmonomethylether 37250-80-9, Pyranose oxidase 41593-38-8, Propyleneglycol monophenylether 52125-53-8, Propyleneglycol monoethylether 55302-96-0 63969-43-7 66251-49-8 66566-48-1 69669-73-4, Glycerol oxidase 70643-19-5 73793-80-3, 2-Hydroxymethyl p-phenylenediamine 79352-72-0 80467-77-2 81892-72-0, 1,3-Bis(2,4-diaminophenoxy)propane 83763-47-7 93841-24-8, 2-.beta.-Hydroxyethyl p-phenylenediamine 97902-52-8, 2-Isopropyl p-phenylenediamine 105293-89-8, N,N-Dipropyl p-phenylenediamine 105607-68-9 110952-46-0 126335-43-1 128729-31-7 129697-50-3 130582-53-5 135855-34-4 135855-35-5 168202-61-7 197179-33-2, Oramix CG110 207568-58-9 221110-58-3 222849-57-2  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and glycols)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Kyowa Hakko K K K; EP 0310675 A 1989 HCPLUS
- (2) Tsujino, Y; US 4961925 A 1990 HCPLUS
- (3) Wella Ag; EP 0795313 A 1997 HCPLUS
- (4) Yamahatsu Sangyo K Ltd; EP 0716846 A 1996 HCPLUS

IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase

9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. contg.

oxidoreductase-type enzymes and glycols)

RN 9001-37-0 HCPLUS

CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 40 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:244543 HCPLUS

DN 130:301478

TI Oxidative hair dye compositions containing  
oxidoreductase-type enzymes and polymers

IN De La Mettrie, Roland; Cotteret, Jean; De Labrey, Arnaud; Maubru, Mireille

PA L'Oreal, Fr.

SO PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917727	A1	19990415	WO 1998-FR2026	19980922

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE,  
DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG,  
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,  
UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

FR 2769217	A1	19990409	FR 1997-12357	19971003
FR 2769217	B1	20000317		
AU 9892695	A1	19990427	AU 1998-92695	19980922
AU 719804	B2	20000518		
BR 9806261	A	20000125	BR 1998-6261	19980922
EP 975318	A1	20000202	EP 1998-945350	19980922

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, FI

JP 2000507983	T2	20000627	JP 1999-521107	19980922
ZA 9809001	A	19990412	ZA 1998-9001	19981002
US 6251145	B1	20010626	US 1999-319199	19990602
US 2002004959	A1	20020117	US 2001-832878	20010412

PRAI FR 1997-12357 A 19971003

WO 1998-FR2026 W 19980922  
US 1999-319199 A3 19990602

AB A cosmetic and/or dermatol. compn. for treating **keratin**  
fibers, in particular human **keratin** fibers and more particularly  
human **hair** comprise in an appropriate support for  
**keratin** fibers: (a) at least an **oxidoreductase**-type  
enzyme with 2 electrons in the presence of at least a donor for said  
enzyme; and (b) at least a substantive polymer selected in the group  
consisting of: (i) cellulosic cationic derivs.; (ii)  
dimethyldiallylammonium halide homopolymers and dimethyldiallylammonium  
copolymers and (meth)acrylic acid; (iii) methacryloyloxyethyltrimethylammo-  
nium halide homopolymers and copolymers; (iv) quaternary polyammonium  
polymers; (v) vinylpyrrolidone polymers with cationic structural units;  
and (vi) their mixts. The invention also concerns the methods for  
treating **keratin** fibers in particular methods for **dyeing**  
, permanently setting or bleaching **hair** using said **compn**  
. A **hair dye** **compn.** contained uricase (20  
IU/mg) 1.5, uric acid 1.5, p-phenylenediamine 0.324, resorcin  
0.33, Merquat 280 (acrylic acid-dimethyldiallylammonium chloride  
copolymer) 1.0, and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme  
polymer

IT Amphoteric surfactants

Anionic surfactants  
Antioxidants  
Cationic surfactants  
Coupling agents  
Nonionic surfactants  
Opacifiers  
Organic solvents  
Oxidizing agents  
Perfumes  
Permanent wave preparations  
Permeation enhancers  
Preservatives  
Sequestering agents  
Thickening agents  
Zwitterionic surfactants  
(oxidative hair dye compns. contg.

oxidoreductase-type enzymes and polymers)

IT Enzymes, biological studies  
Paraffin oils  
Polymers, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and polymers)

IT Quaternary ammonium compounds, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(polymers; oxidative hair dye compns.  
contg. oxidoreductase-type enzymes and polymers)

IT 69-93-2, Uric acid, biological studies 106-50-3,  
1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine,  
biological studies 108-46-3, 1,3-Benzene diol, biological studies  
591-27-5 9002-12-4, Uricase 9004-34-6D, Cellulose, alkyl ether  
derivs. 9015-06-9 9055-15-6, Oxidoreductase  
26062-79-3, Merquat 100 26161-33-1 30581-59-0, Dimethylaminoethyl  
methacrylate-vinylpyrrolidone copolymer 35429-19-7 53694-17-0, Merquat  
280 68393-49-7 95144-24-4 131954-48-8 197179-33-2, Oramix cgl10  
223104-80-1  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and polymers)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Beiersdorf Ag; DE 19547991 A 1997 HCPLUS  
(2) Goldwell Ag; EP 0548620 A 1993 HCPLUS  
(3) Goldwell Ag; EP 0548621 A 1993 HCPLUS  
(4) Kaisha, Y; EP 0716846 A 1996 HCPLUS  
(5) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCPLUS  
(6) Oreal; FR 2586913 A 1987  
(7) Oreal, S; WO 9400100 A 1994 HCPLUS  
(8) Wella Ag; EP 0795313 A 1997 HCPLUS

IT 9002-12-4, Uricase 9055-15-6, Oxidoreductase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and polymers)

RN 9002-12-4 HCPLUS  
CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS  
CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 41 OF 53 HCPLUS COPYRIGHT 2002 ACS  
AN 1999:244542 HCPLUS  
DN 130:271867  
TI Oxidative hair dye compositions containing  
oxidoreductase-type enzymes and basic amino acids  
IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille  
PA L'Oreal, Fr.  
SO PCT Int. Appl., 31 pp.  
CODEN: PIXXD2  
DT Patent

LA French  
 IC ICM A61K007-13  
 ICS A61K007-09; A61K007-135  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917726	A1	19990415	WO 1998-FR2025	19980922
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769219	A1	19990409	FR 1997-12359	19971003
	FR 2769219	B1	20000310		
	AU 9892694	A1	19990427	AU 1998-92694	19980922
	AU 718420	B2	20000413		
	EP 969797	A1	20000112	EP 1998-945349	19980922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9806248	A	20000125	BR 1998-6248	19980922
	JP 2000507982	T2	20000627	JP 1999-521106	19980922
	ZA 9809006	A	19990412	ZA 1998-9006	19981002
	US 6270534	B1	20010807	US 1999-319167	19990602
	US 2001044977	A1	20011129	US 2001-832882	20010412
PRAI	FR 1997-12359	A	19971003		
	WO 1998-FR2025	W	19980922		
	US 1999-319167	A3	19990602		
OS	MARPAT 130:271867				
AB	Cosmetic compn. for treating keratin fibers comprise in an appropriate support for keratin fibers: (a) at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme; and (b) at least a basic amino acid. Methods for treating keratin fibers, in particular the methods for dyeing, permanently setting or bleaching hair using said compn. are also disclosed. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, Oramix CG110 8.0, p-phenylenediamine 0.324, resorcin 0.33, hydroxyethyl cellulose 1.0, ethanol 20.0, arginine q.s. pH = 9.5, and water q.s. 100 g.				
ST	oxidative hair dye amino acid; oxidoreductase enzyme oxidative hair dye				
IT	Amphoteric surfactants Anionic surfactants Antioxidants Cationic surfactants Coupling agents Nonionic surfactants Opacifiers Organic solvents Oxidizing agents Perfumes Permanent wave preparations Permeation enhancers Preservatives Sequestering agents Thickening agents				

## Zwitterionic surfactants

(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and basic amino acids)

- IT Basic amino acids  
 Enzymes, biological studies  
 Polymers, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and basic amino acids)
- IT 56-87-1, Lysine, biological studies 69-93-2, Uric acid,  
 biological studies 74-79-3, Arginine, biological studies 95-55-6  
 106-50-3, 1,4-Benzenediamine, biological studies 108-45-2,  
 1,3-Benzenediamine, biological studies 108-46-3, 1,3-Benzenediol,  
 biological studies 372-75-8, Citrulline 591-27-5 9002-12-4,  
 Uricase 9004-62-0, Hydroxyethyl cellulose 9055-15-6,  
**Oxidoreductase**  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and basic amino acids)
- IT 197179-33-2, Oramix cg110  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and basic amino acids)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Beiersdorf Ag; DE 19547991 A 1997 HCPLUS
- (2) Goldwell Ag; EP 0548620 A 1993 HCPLUS
- (3) Goldwell Ag; EP 0548621 A 1993 HCPLUS
- (4) Kaisha, Y; EP 0716846 A 1996 HCPLUS
- (5) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCPLUS
- (6) Oreal; FR 2586913 A 1987
- (7) Oreal, S; WO 9400100 A 1994 HCPLUS
- (8) Wella Ag; EP 0795313 A 1997 HCPLUS

IT 9002-12-4, Uricase 9055-15-6, **Oxidoreductase**RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and basic amino acids)

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 42 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:244541 HCPLUS

DN 130:271866

- TI Oxidative hair dye compositions containing  
 oxidoreductase-type enzymes and non-ionic amphiphilic polymers
- IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille
- PA L'Oreal, Fr.
- SO PCT Int. Appl., 30 pp.
- CODEN: PIXXD2
- DT Patent
- LA French

IC ICM A61K007-13  
 ICS A61K007-06; A61K007-09; A61K007-135  
 CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917725	A1	19990415	WO 1998-FR2023	19980922
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769220	A1	19990409	FR 1997-12360	19971003
	FR 2769220	B1	20000310		
	AU 9892692	A1	19990427	AU 1998-92692	19980922
	AU 719808	B2	20000518		
	EP 977547	A1	20000209	EP 1998-945347	19980922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9806222	A	20000418	BR 1998-6222	19980922
	JP 2000507980	T2	20000627	JP 1999-521104	19980922
	ZA 9809002	A	19990412	ZA 1998-9002	19981002
	US 6312477	B1	20011106	US 1999-319207	19990802
PRAI	FR 1997-12360	A	19971003		
	WO 1998-FR2023	W	19980922		
AB	A cosmetic compn. for treating keratin fibers comprise in an appropriate support for keratin fibers: (a) at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme; and (b) at least an anionic amphiphilic polymer comprising at least an allyl structural unit with a fatty chain. Methods for treating keratin fibers, in particular the methods for dyeing, permanently setting or bleaching hair using said compn. are also disclosed. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, Oramix CG110 8.0, p-phenylenediamine 0.324, resorcin 0.32, Salcare SC90 (an acrylic polymer) 3.0, ethanol 20.0, monoethanolamine q.s. pH = 9.5, and water q.s. 100 g.				
ST	oxidative hair dye oxidoreductase enzyme polymer				
IT	Polymers, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				
	(non-ionic amphiphilic; oxidative hair dye compns. contg. oxidoreductase-type enzymes and non-ionic amphiphilic polymers)				
IT	Amphoteric surfactants Antioxidants Cationic surfactants Coupling agents Nonionic surfactants Opacifiers Organic solvents Oxidizing agents Perfumes Permanent wave preparations Permeation enhancers Preservatives				

Sequestering agents  
 Thickening agents  
 Zwitterionic surfactants  
     (oxidative hair dye compns. contg.  
     **oxidoreductase-type enzymes and non-ionic amphiphilic polymers**)  
 IT Acrylic polymers, biological studies  
 Enzymes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
     (Uses)  
     (oxidative hair dye compns. contg.  
     **oxidoreductase-type enzymes and non-ionic amphiphilic polymers**)  
 IT 69-93-2, Uric acid, biological studies 106-50-3,  
 1, 4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine,  
 biological studies 108-46-3, 1,3-Benzenediol, biological studies  
 591-27-5 9002-12-4, Uricase 9055-15-6,  
**Oxidoreductase** 109292-17-3, Salcare SC90  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
     (Uses)  
     (oxidative hair dye compns. contg.  
     **oxidoreductase-type enzymes and non-ionic amphiphilic polymers**)  
 RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 RE  
 (1) Beiersdorf Ag; DE 19547991 A 1997 HCPLUS  
 (2) Goldwell Ag; EP 0548620 A 1993 HCPLUS  
 (3) Goldwell Ag; EP 0548621 A 1993 HCPLUS  
 (4) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCPLUS  
 (5) Oreal; FR 2586913 A 1987  
 (6) Oreal; EP 0827739 A 1998 HCPLUS  
 (7) Oreal, S; WO 9400100 A 1994 HCPLUS  
 (8) Wella Ag; EP 0795313 A 1997 HCPLUS  
 (9) Yamahatsu Sangyo Kaisha; EP 0716846 A 1996 HCPLUS  
 IT 9002-12-4, Uricase 9055-15-6, **Oxidoreductase**  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
     (Uses)  
     (oxidative hair dye compns. contg.  
     **oxidoreductase-type enzymes and non-ionic amphiphilic polymers**)  
 RN 9002-12-4 HCPLUS  
 CN Oxidase, urate (9CI) (CA INDEX NAME)  
  
 \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
 RN 9055-15-6 HCPLUS  
 CN Oxidoreductase (9CI) (CA INDEX NAME)  
  
 \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*  
  
 L70 ANSWER 43 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 1999:244540 HCPLUS  
 DN 130:286796  
 TI Oxidative hair dye compositions containing  
     **oxidoreductase-type enzymes and non-ionic amphiphilic polymers**  
 IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille  
 PA L'Oreal, Fr.  
 SO PCT Int. Appl., 28 pp.  
     CODEN: PIXXD2  
 DT Patent  
 LA French  
 IC ICM A61K007-13  
     ICS A61K007-06  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917724	A1	19990415	WO 1998-FR2022	19980922
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769221	A1	19990409	FR 1997-12361	19971003
	FR 2769221	B1	20000114		
	AU 9892691	A1	19990427	AU 1998-92691	19980922
	AU 719807	B2	20000518		
	BR 9806249	A	20000125	BR 1998-6249	19980922
	EP 998257	A1	20000510	EP 1998-945346	19980922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000507979	T2	20000627	JP 1999-521103	19980922
	ZA 9809004	A	19990412	ZA 1998-9004	19981002
	US 6273920	B1	20010814	US 1999-319208	19990602
PRAI	FR 1997-12361	A	19971003		
	WO 1998-FR2022	W	19980922		
AB	A cosmetic compn. for treating keratin fibers comprise in an appropriate support for keratin fibers: (a) at least an oxidoreductase type enzyme with 2 electrons in the presence of at least a donor for said enzyme; and (b) at least a non-ionic amphiphilic polymer comprising at least a fatty chain and at least a hydrophilic structural unit. Methods for treating keratin fibers, in particular methods for dyeing, permanently setting and bleaching hair using said compn. are also disclosed. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, Oramix CG110 8.8, p-phenylenediamine 0.324, resorcin 0.32, Dapral T212 (urethane polyether) 1.0, ethanol 20.0, monoethanolamine q.s. pH = 9.5, and water q.s. 100 g.				
ST	oxidative hair dye oxidoreductase enzyme polymer				
IT	Amphoteric surfactants Anionic surfactants Antioxidants Cationic surfactants Coupling agents Nonionic surfactants Opacifiers Organic solvents Oxidizing agents Perfumes Permanent wave preparations Permeation enhancers Preservatives Sequestering agents Thickening agents Zwitterionic surfactants (oxidative hair dye compns. contg. oxidoreductase-type enzymes and non-ionic amphiphilic polymers)				
IT	Enzymes, biological studies Polyether-polyurethanes Polymers, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES				

## (Uses)

(oxidative hair dye compns. contg.

oxidoreductase-type enzymes and non-ionic amphiphilic polymers)

IT 69-93-2, Uric acid, biological studies 106-50-3,  
 1, 4-Benzenediamine, biological studies 108-45-2, 1, 3-Benzenediamine,  
 biological studies 108-46-3, 1, 3-Benzenediol, biological studies  
 591-27-5 9002-12-4, Uricase 9004-34-6D, Cellulose, alkyl ether  
 derivs. 9004-62-0, Hydroxyethyl cellulose 9055-15-6,  
 Oxidoreductase 37353-59-6, Hydroxymethyl cellulose 39421-75-5,  
 Hydroxypropyl guar 77035-98-4 77035-99-5, Hexadecene-vinylpyrrolidone  
 copolymer 88322-43-4 138860-57-8, Dapral T212 222833-13-8  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(oxidative hair dye compns. contg.

oxidoreductase-type enzymes and non-ionic amphiphilic polymers)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Kyowa Hakko K K K; EP 0310675 A 1989 HCPLUS
- (2) L'Oreal; FR 2694018 A 1994 HCPLUS
- (3) Wella Ag; DE 1048389 B

IT 9002-12-4, Uricase 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(oxidative hair dye compns. contg.

oxidoreductase-type enzymes and non-ionic amphiphilic polymers)

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 44 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:244539 HCPLUS

DN 130:301477

TI Oxidative hair dye compositions containing

oxidoreductase-type enzymes and fatty sucronamides

IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille

PA L'Oreal, Fr.

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

ICS A61K007-135; A61K007-09

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917723	A1	19990415	WO 1998-FR2020	19980922
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			

FR 2769222	A1	19990409	FR 1997-12362	19971003
FR 2769222	B1	19991231		
AU 9892689	A1	19990427	AU 1998-92689	19980922
AU 718518	B2	20000413		
EP 975317	A1	20000202	EP 1998-945344	19980922
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
BR 9806223	A	20000418	BR 1998-6223	19980922
JP 2000507977	T2	20000627	JP 1999-521101	19980922
RU 2158585	C1	20001110	RU 1999-114011	19980922
ZA 9809005	A	19990412	ZA 1998-9005	19981002
PRAI FR 1997-12362	A	19971003		
WO 1998-FR2020	W	19980922		
OS MARPAT 130:301477				
AB A cosmetic compn. for treating keratin fibers comprise in an appropriate support for the keratin fibers: (a) at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme; and (b) at least a non-ionic fatty sucronamide. Methods for treating keratin fibers, in particular for dyeing, permanently setting, or bleaching hair using said compn. are also disclosed. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, ethanol 20.0, hydroxyethyl cellulose 1.0, N-cocolactobionamide 5, p-phenylenediamine 0.324, resorcin 0.33, and water q.s. 100 g.				
ST oxidative hair dye oxidoreductase enzyme sucronamide				
IT Fatty amides RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (N-substituted derivs.; oxidative hair dye compns. contg. oxidoreductase-type enzymes and fatty sucronamides)				
IT Amphoteric surfactants Anionic surfactants Antioxidants Cationic surfactants Coupling agents Nonionic surfactants Opacifiers Organic solvents Oxidizing agents Perfumes Permanent wave preparations Permeation enhancers Preservatives Sequestering agents Thickening agents Zwitterionic surfactants (oxidative hair dye compns. contg. oxidoreductase-type enzymes and fatty sucronamides)				
IT Enzymes, biological studies RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (oxidative hair dye compns. contg. oxidoreductase-type enzymes and fatty sucronamides)				
IT 69-93-2, Uric acid, biological studies 96-82-2D, Lactobionic acid, N-substituted derivs. 106-50-3, 1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine, biological studies 108-46-3, Resorcin, biological studies 534-42-9D, Maltobionic acid, N-substituted				

derivs. 591-27-5 9002-12-4, Uricase 9055-15-6,  
**Oxidoreductase** 43169-32-0D, Cellobionamide, N-alkyl derivs.  
 85261-20-7, N-Decanoyl-N-methylglucamine 95524-89-3D, Melibionamide,  
 N-alkyl derivs. 159189-90-9D, Gentiobionamide, N-alkyl derivs.  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. contg.

**oxidoreductase-type enzymes and fatty sucronamides)**

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCPLUS  
 (2) Unilever Nv; EP 0550106 A 1993 HCPLUS  
 (3) Unilever Plc Unilever Nv Nl; WO 9412511 A 1994 HCPLUS

IT 9002-12-4, Uricase 9055-15-6, **Oxidoreductase**

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(oxidative hair dye compns. contg.

**oxidoreductase-type enzymes and fatty sucronamides)**

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 45 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:244538 HCPLUS

DN 130:286795

TI Oxidative hair dye compositions containing  
**oxidoreductase-type enzymes and amine silicones**

IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille

PA L'Oreal, Fr.

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-09

ICS A61K007-135; A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917722	A1	19990415	WO 1998-FR2027	19980922
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769218	A1	19990409	FR 1997-12358	19971003
	FR 2769218	B1	20000310		
	AU 9892696	A1	19990427	AU 1998-92696	19980922
	AU 718441	B2	20000413		
	EP 969795	A1	20000112	EP 1998-945351	19980922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

BR 9806262	A 20000125	BR 1998-6262	19980922
JP 2000507984	T2 20000627	JP 1999-521108	19980922
ZA 9809003	A 19990412	ZA 1998-9003	19981002
US 2001049849	A1 20011213	US 2001-832877	20010412
PRAI FR 1997-12358	A 19971003		
WO 1998-FR2027	W 19980922		
US 1999-319206	A3 19990602		

AB A cosmetic compn. for treating keratin fibers comprise in an appropriate support for keratin fibers: (a) at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme; and (b) at least an amine silicone. Methods for treating keratin fibers, in particular methods for dyeing, permanently setting or bleaching hair using said compn. are also disclosed. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, p-phenylenediamine 0.324, resorcin 0.33, Dow Corning 939 emulsion (polydimethylsiloxane contg. aminoethylaminopropyl group) 1.2, and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme silicone

IT Polysiloxanes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (3-[(2-aminoethyl)amino]-2-methylpropyl Me, di-Me; oxidative hair dye compns. contg. oxidoreductase-type enzymes and amine silicones)

IT Polysiloxanes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (amino-contg.; oxidative hair dye compns. contg. oxidoreductase-type enzymes and amine silicones)

IT Amphoteric surfactants  
 Anionic surfactants  
 Antioxidants  
 Cationic surfactants  
 Coupling agents  
 Nonionic surfactants  
 Opacifiers  
 Perfumes  
 Permanent wave preparations  
 Permeation enhancers  
 Preservatives  
 Sequestering agents  
 Thickening agents  
 Zwitterionic surfactants  
 (oxidative hair dye compns. contg. oxidoreductase-type enzymes and amine silicones)

IT Enzymes, biological studies  
 Polysiloxanes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg. oxidoreductase-type enzymes and amine silicones)

IT 69-93-2, Uric acid, biological studies 106-50-3,  
 1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine,  
 biological studies 108-46-3, 1,3-Benzenediol, biological studies  
 123-30-8 591-27-5 9002-12-4, Uricase 9055-15-6,  
 Oxidoreductase 203341-07-5, Dow Corning 939  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and amine silicones)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Beiersdorf Ag; DE 19547991 A 1997 HCPLUS
- (2) Goldwell Ag; EP 0548620 A 1993 HCPLUS
- (3) Goldwell Ag; EP 0548621 A 1993 HCPLUS
- (4) Kaisha, Y; EP 0716846 A 1996 HCPLUS
- (5) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCPLUS
- (6) Oreal; FR 2586913 A 1987
- (7) Oreal; WO 9400100 A 1994 HCPLUS
- (8) Wella Ag; EP 0795313 A 1997 HCPLUS

IT 9002-12-4, Uricase 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidative hair dye compns. contg.

oxidoreductase-type enzymes and amine silicones)

RN 9002-12-4 HCPLUS.

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 46 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:244537 HCPLUS

DN 130:286794

TI Oxidative hair dye compositions containing  
oxidoreductase-type enzymes and anionic guar gums

IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille

PA L'Oreal, Fr.

SO PCT Int. Appl., 29 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-06

ICS A61K007-13; A61K007-135; A61K007-09

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917721	A1	19990415	WO 1998-FR2024	19980922
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769216	A1	19990409	FR 1997-12356	19971003
	FR 2769216	B1	19991231		
	AU 9892693	A1	19990427	AU 1998-92693	19980922
	AU 718348	B2	20000413		
	EP 966247	A1	19991229	EP 1998-945348	19980922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000507981	T2	20000627	JP 1999-521105	19980922

BR 9806171	A	20010109	BR 1998-6171	19980922
ZA 9809000	A	19990412	ZA 1998-9000	19981002
US 6241784	B1	20010605	US 1999-319163	19990602

PRAI FR 1997-12356 A 19971003  
 WO 1998-FR2024 W 19980922

AB A cosmetic compn. for treating keratin fibers comprise in an appropriate support for keratin fibers: (a) at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme; and (b) at least a non-ionic guar gum. Methods for treating keratin fibers, in particular the methods for dyeing, permanent setting or bleaching hair using said compn. are also disclosed. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, ethanol 20.0, Oramix CG110 8.0, p-phenylenediamine 0.324, resorcin 0.32, Jaguar HP60 1.6, monoethanolamine q.s. pH = 9.5, and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme;  
 anionic guar gum oxidative hair dye

IT Amphoteric surfactants  
 Anionic surfactants  
 Antioxidants  
 Cationic surfactants  
 Coupling agents  
 Nonionic surfactants  
 Opacifiers  
 Perfumes  
 Permanent wave preparations  
 Permeation enhancers  
 Preservatives  
 Sequestering agents  
 Thickening agents  
 Zwitterionic surfactants  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and anionic guar gums)

IT Enzymes, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and anionic guar gums)  
 IT 69-93-2, Uric acid, biological studies 106-50-3,  
 1,4-Benzenediamine, biological studies 108-45-2, 1,3-Benzenediamine,  
 biological studies 108-46-3, 1,3-Benzenediol, biological studies  
 123-30-8 591-27-5 9000-30-0D, Guar gum, Cl-6 hydroxyalkyl  
 derivs. 9002-12-4, Uricase 9055-15-6,  
 Oxidoreductase 39421-75-5, Jaguar HP60 39465-11-7,  
 Hydroxyethyl guar gum 62931-11-7  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (oxidative hair dye compns. contg.  
 oxidoreductase-type enzymes and anionic guar gums)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Beiersdorf Ag; DE 19547991 A 1997 HCPLUS
- (2) Kaisha, Y; EP 0716846 A 1996 HCPLUS
- (3) Kyowa Hakko Kogyo Kk; EP 0310675 A 1989 HCPLUS
- (4) Oreal; WO 9400100 A 1994 HCPLUS
- (5) Procter & Gamble; FR 2112550 A 1972 HCPLUS
- (6) Thomas, K; US 3893803 A 1975 HCPLUS
- (7) Wella Ag; EP 0795313 A 1997 HCPLUS

IT 9002-12-4, Uricase 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and anionic guar gums)

RN 9002-12-4 HCPLUS  
CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS  
CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 47 OF 53 HCPLUS COPYRIGHT 2002 ACS  
AN 1999:244536 HCPLUS  
DN 130:301476  
TI Oxidative hair dye compositions containing  
oxidoreductase-type enzymes and anionic  
surfactants  
IN De La Mettrie, Roland; Cotteret, Jean; De Labbey, Arnaud; Maubru, Mireille  
PA L'Oreal, Fr.  
SO PCT Int. Appl., 31 pp.  
CODEN: PIXXD2  
DT Patent  
LA French  
IC ICM A61K007-06  
ICS A61K007-50  
CC 62-3 (Essential Oils and Cosmetics)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9917720	A1	19990415	WO 1998-FR2021	19980922
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2769223	A1	19990409	FR 1997-12363	19971003
	AU 9892690	A1	19990427	AU 1998-92690	19980922
	AU 718674	B2	20000420		
	BR 9806252	A	20000125	BR 1998-6252	19980922
	EP 998255	A1	20000510	EP 1998-945345	19980922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000507978	T2	20000627	JP 1999-521102	19980922
	ZA 9809007	A	19990412	ZA 1998-9007	19981002
	US 6261325	B1	20010717	US 1999-319201	19990709
PRAI	FR 1997-12363	A	19971003		
	WO 1998-FR2021	W	19980922		
OS	MARPAT 130:301476				
AB	A cosmetic compn. for treating keratin fibers comprise in an appropriate support for keratin fibers: (a) at least an oxidoreductase-type enzyme with 2 electrons in the presence of at least a donor for said enzyme; (b) at least an anionic surfactant selected in the group consisting of (i) acylisethionates; (ii) acyltaurates (iii) acylsarcosinates; (iv) acylglutamates; (v) polyoxyalkylene carboxylic ether acids and their salts; (vi) fatty				

glucamide sulfates; (vii) alkylgalactoside uronates; (viii) alkylpolyglucoside anionic derivs.; and (ix) their mixts. Methods for treating keratin fibers, in particular for dyeing, permanently setting or bleaching hair using said compn are also disclosed. A hair dye compn. contained uricase (20 IU/mg) 1.5, uric acid 1.5, ethanol 20.0, hydroxyethyl cellulose 1.0, Acylglutamate CT12 15.0, p-phenylenediamine 0.324, resorcin 0.33, monoethanolamine q.s. pH = 9.5, and water q.s. 100 g.

ST oxidative hair dye oxidoreductase enzyme surfactant

IT Coco fatty acids  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(2-sulfoethyl esters, sodium salts; oxidative hair dye compns. contg. oxidoreductase-type enzymes and anionic surfactants)

IT Galactosides  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(alkyl derivs.; oxidative hair dye compns. contg. oxidoreductase-type enzymes and anionic surfactants)

IT Fatty acid salts  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(coco, 2-sulfoethyl esters, sodium salts; oxidative hair dye compns. contg. oxidoreductase-type enzymes and anionic surfactants)

IT Amphoteric surfactants  
Anionic surfactants  
Antioxidants  
Cationic surfactants  
Coupling agents  
Nonionic surfactants  
Opacifiers  
Oxidizing agents  
Perfumes  
Permanent wave preparations  
Permeation enhancers  
Preservatives  
Sequestering agents  
Thickening agents  
Zwitterionic surfactants  
(oxidative hair dye compns. contg. oxidoreductase-type enzymes and anionic surfactants)

IT Enzymes, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(oxidative hair dye compns. contg. oxidoreductase-type enzymes and anionic surfactants)

IT Carboxylic acids, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
(polyoxyalkylene; oxidative hair dye compns. contg. oxidoreductase-type enzymes and anionic surfactants)

IT 27306-90-7

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(Akypo RLM; oxidative hair dye compns.  
contg. oxidoreductase-type enzymes and anionic  
surfactants)

IT 56-86-0D, Glutamic acid, acyl derivs. 69-93-2, Uric acid,  
biological studies 106-50-3, 1,4-Benzenediamine, biological studies  
107-36-8D, Isethionic acid, acyl derivs. 107-97-1D, Sarcosinic acid,  
acyl derivs. 108-45-2, 1,3-Benzenediamine, biological studies  
108-46-3, 1,3-Benzenediol, biological studies 137-16-6, Sodium  
lauroylsarcosinate 591-27-5 5138-18-1D, Sulfosuccinic acid,  
alkylpolyglucoside derivs. 7664-38-2D, Phosphoric acid,  
alkylpolyglucoside derivs. 9002-12-4, Uricase 9055-15-6  
, Oxidoreductase 38732-22-8D, Triethanolamine glutamate,  
cocoyl derivs.

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and anionic  
surfactants)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Beiersdorf Ag; DE 19547991 A 1997 HCPLUS
- (2) Kyowa Hakko K K K; EP 0310675 A 1989 HCPLUS
- (3) L'Oreal; FR 2694018 A 1994 HCPLUS

IT 9002-12-4, Uricase 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(oxidative hair dye compns. contg.  
oxidoreductase-type enzymes and anionic  
surfactants)

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 48 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1999:231492 HCPLUS

DN 130:257164

TI Enzymic foam compositions for dyeing keratinous fibers

IN Sorenson, Niels Henrik

PA Novo Nordisk A/S, Den.

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K007-13

ICS A61K007-06

CC 62-3 (Essential Oils and Cosmetics)

Section cross-reference(s): 41

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9915137	A1	19990401	WO 1998-DK406	19980918
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG,				

KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX,  
 NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT,  
 UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES,  
 FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI,  
 CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
 AU 9891539 A1 19990412 AU 1998-91539 19980918  
 AU 737597 B2 20010823  
 EP 1014921 A1 20000705 EP 1998-943723 19980918  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI  
 JP 2001517608 T2 20011009 JP 2000-512513 19980918  
 PRAI DK 1997-1077 A 19970919  
 DK 1998-165 A 19980205  
 WO 1998-DK406 W 19980918  
 AB The invention relates to enzymic foam compns. for bleaching or  
 dyeing of keratinous fibers, e.g. hair, fur,  
 hide or wool, comprising: (1) at least one oxidn. enzyme, typically an  
 oxidoreductase selected from laccases and related enzymes,  
 oxidases and peroxidases; (2) at least one foaming agent, e.g. selected  
 from soaps and anionic, nonionic, amphoteric and zwitterionic surfactants;  
 (3) at least one dye precursor, e.g. selected from diamines,  
 aminophenols and phenols; and optionally (4) at least one modifier, e.g.  
 selected from m-arom. diamines, m-aminophenols and polyphenols. A foam  
 formulation contg. laccase from *Myceliophthora thermophila* 0.1 mg/mL, a  
 dye precursor, p-phenylenediamine or o-aminophenol, 0.5%, SDS  
 2.0%, betaine phosphate 2.0%, and buffer up to 100%, resp., showed better  
 color uniformity compared to control, i.e. a "still water" compn  
 . contg. a dye precursor concn. reduced by 50%.  
 ST oxidative enzyme foam dyeing hair fur; hide wool dyeing oxidative enzyme  
 foam  
 IT Phenols, biological studies  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
     (amino; oxidative enzymic foam compns. for dyeing keratinous  
     fibers)  
 IT Fur  
 Hide  
 Wool  
     (dyeing of; oxidative enzymic foam compns. for dyeing  
     keratinous fibers)  
 IT Dyeing  
     (foam; oxidative enzymic foam compns. for dyeing keratinous  
     fibers)  
 IT Aspergillus  
 Botrytis  
 Collybia  
 Coprinus  
 Coriolus  
 Fomes  
 Fungi  
 Lentinus  
 Myceliophthora  
 Myceliophthora thermophila  
 Neurospora  
 Phlebia  
 Phlebia radiata  
 Pleurotus  
 Podospora  
 Polyporus  
 Polyporus pinsitus

Pyricularia  
Pyricularia oryzae  
Rhizoctonia  
Rhizoctonia solani  
Scytalidium  
Scytalidium thermophilum  
Trametes hirsuta  
Trametes versicolor  
(laccase of; oxidative enzymic foam compns. for dyeing  
keratinous fibers)

IT Phenols, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(naphthols; oxidative enzymic foam compns. for dyeing  
keratinous fibers)

IT Amphoteric surfactants  
**Anionic surfactants**  
Foaming agents  
Nonionic surfactants  
Oxidative hair dyes  
Zwitterionic surfactants  
(oxidative enzymic foam compns. for dyeing keratinous fibers)

IT Aromatic diamines  
Diamines  
Oxidative enzymes  
Phenols, biological studies  
Polyphenols (nonpolymeric)  
Soaps  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative enzymic foam compns. for dyeing keratinous fibers)

IT Dyes  
(oxidative; oxidative enzymic foam compns. for dyeing  
keratinous fibers)

IT Amines, biological studies  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(phenolic; oxidative enzymic foam compns. for dyeing  
keratinous fibers)

IT 95-55-6, o-Aminophenol 95-70-5, p-Toluenediamine 106-50-3,  
p-Phenylenediamine, biological studies 151-21-3, Sodium dodecyl sulfate,  
biological studies 9002-10-2, Tyrosinase 9003-99-0, Peroxidase  
9004-82-4 9035-73-8, Oxidase 9055-15-6, **Oxidoreductase**  
58823-88-4, Betaine phosphate 80498-15-3, Laccase  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)  
(oxidative enzymic foam compns. for dyeing  
keratinous fibers)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Goldwell; EP 0548620 A 1993 HCPLUS  
(2) Kyowa Hakko; EP 0310675 A 1989 HCPLUS  
(3) L'Oreal; FR 2694018 A 1994 HCPLUS  
(4) Novo Nordisk; WO 9723685 A 1997 HCPLUS  
(5) Perma; EP 0504005 A 1992 HCPLUS  
(6) Procter & Gamble; FR 2112549 A 1972 HCPLUS  
(7) Wella; EP 0795313 A 1997 HCPLUS  
(8) Yamahatsu; EP 0716846 A 1996 HCPLUS

IT 9002-10-2, Tyrosinase 9055-15-6, **Oxidoreductase**  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

## (Uses)

(oxidative enzymic foam compns. for dyeing  
keratinous fibers)

RN 9002-10-2 HCPLUS

CN Oxygenase, monophenol mono- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 49 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1998:804150 HCPLUS

DN 130:57002

TI Keratin fiber oxidation dyeing composition  
containing an oxidoreductase enzyme

IN Maubru, Mireille

PA L'oreal, Fr.

SO PCT Int. Appl., 46 pp.  
CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-4 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9855083	A1	19981210	WO 1998-FR913	19980506
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	FR 2763841	A1	19981204	FR 1997-6802	19970603
	FR 2763841	B1	20000211		
	AU 9876604	A1	19981221	AU 1998-76604	19980506
	AU 730767	B2	20010315		
	EP 988021	A1	20000329	EP 1998-924391	19980506
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2000513748	T2	20001017	JP 1999-501693	19980506
PRAI	FR 1997-6802	A	19970603		
	WO 1998-FR913	W	19980506		
OS	MARPAT 130:57002				
AB	A ready-for-use keratin fiber oxidn. dyeing compn., in particular for human keratin fibers such as hair, comprise, at least a heterocyclic oxidn. dye, at least an oxidoreductase enzyme with 2 electrons in the presence of at least a donor for said enzyme. An oxidative hair dye prepn. contained pyrazolol-[1,5-a]-pyrimidine-3,7-diamine.2HCl 0.666, 2-methyl-5-aminophenol 0.369, Uricase 20 IU/mg 0.8, uric acid 1.2, excipients and water q.s. 100 g. The compn. was applied on a gray hair for 30 min, then washed with a shampoo and dried to give a golden iris color.				
ST	oxidn hair dye oxidoreductase enzyme				
IT	Coupling agents				

## Oxidative hair dyes

## Oxidizing agents

(keratin fiber oxidn. dyeing compn.  
contg. oxidoreductase enzyme)

## IT Enzymes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(keratin fiber oxidn. dyeing compn.  
contg. oxidoreductase enzyme)

IT 51-17-2D, Benzimidazole, derivs. 95-54-5D, 1,2-Benzenediamine, derivs.  
95-55-6D, derivs. 106-50-3D, 1,4-Benzenediamine, derivs. 108-45-2D,  
1,3-Benzenediamine, derivs. 123-30-8D, derivs. 533-31-3D, Sesamol,  
derivs. 1004-74-6, 2,4,5,6-Tetra-aminopyrimidine 1004-75-7,  
4-Hydroxy-2,5,6-triaminopyrimidine 2380-84-9, 7-Hydroxyindole  
2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 2652-77-9  
3131-52-0, 5,6-Dihydroxyindole 4331-29-7, 4-Aminobenzimidazole  
4701-08-0 4744-71-2D, 3,5-Pyrazolidinedione, derivs. 4770-37-0,  
6-Hydroxyindoline 5192-04-1, 7-Aminoindole 5192-23-4, 4-Aminoindole  
5318-27-4, 6-Aminoindole 5735-53-5D, Benzomorpholine, derivs.  
6941-70-4 7556-37-8 7711-50-4, 4,7-Dimethoxy-benzimidazole  
9002-12-4, Uricase 9055-15-6, Oxidoreductase  
15918-79-3, 6-Aminoindoline 16461-98-6, 1H-Pyrazole-3,4-diamine  
19499-83-3 26011-57-4 26021-57-8 26438-50-6 29274-23-5,  
Pyrazolo[1,5-a]pyrimidin-7-one 29539-03-5, 5,6-Dihydroxyindoline  
35320-67-3, 4-Hydroxy-2-methylindole 45514-38-3, 4,5-Diamino  
1-methylpyrazole 46160-00-3, 5,6-Dimethyl pyrazolo[1,5-a]pyrimidine-3,7-  
diamine 51437-33-3 52943-88-1 67021-83-4, 4-Hydroxybenzimidazole  
69151-32-2 72721-02-9, 5,6-Dimethoxy-benzimidazole 81329-90-0  
85926-99-4, 4-Hydroxyindoline 93846-05-0 94977-60-3,  
4-Hydroxy-2-methylbenzimidazole 96013-05-7, 4-Amino-2-methyl-  
benzimidazole 101948-27-0 102169-73-3, 1H-Benzimidazole-5,6-diol  
102170-38-7, 4,7-Dihydroxy-benzimidazole 126462-95-1 130570-60-4,  
6-Hydroxy-1-methylindole 131311-66-5 132026-21-2 145594-51-0  
151406-76-7 151521-74-3 157587-56-9 157587-57-0 157587-58-1  
184172-85-8 184172-97-2 184172-99-4 184173-00-0 184173-01-1  
184173-02-2 184173-03-3 184173-43-1 184173-45-3 186963-53-1  
186963-54-2 186963-55-3 186963-56-4 186963-71-3 197304-94-2  
197355-52-5 197355-53-6 201599-12-4, Pyrazolo[1,5-a]-pyrimidine-3,7-  
diamine 201599-14-6, 2-Methyl pyrazolo[1,5-a]-pyrimidine-3,7-diamine  
201599-15-7, 2,5-Dimethylpyrazolo[1,5-a]pyrimidine-3,7-diamine  
201599-16-8, Pyrazolo[1,5-a]pyrimidine-3,5-diamine 201599-17-9,  
2,7-Dimethyl pyrazolo[1,5-a]pyrimidine-3,5-diamine 201599-18-0,  
3-Aminopyrazolo[1,5-a]pyrimidin-7-ol 201599-19-1, 3-Amino 5-methyl  
pyrazolo[1,5-a]pyrimidin-7-ol 201599-20-4, 3-Amino pyrazolo[1,5-  
a]pyrimidin-5-ol 201599-21-5, 2-(3-Amino pyrazolo[1,5-a]pyrimidin-7-  
ylamino)-ethanol 201599-22-6, 3-Amino-7-.beta.-hydroxyethylamino-5-  
methylpyrazolo[1,5-a]pyrimidine 201599-23-7, 2-(7-Amino  
pyrazolo[1,5-a]pyrimidin-3-ylamino)-ethanol 201599-24-8,  
2-[(3-Amino-pyrazolo[1,5-a]pyrimidin-7-yl)-(2-hydroxyethyl)-amino-ethanol  
201599-25-9, 2-[(7-Amino-pyrazolo[1,5-a]pyrimidin-3-yl)-(2-hydroxyethyl)-  
amino]-ethanol 201599-26-0, 2,6-Dimethyl pyrazolo[1,5-a]pyrimidine-3,7-  
diamine 201599-27-1 217318-23-5 217318-24-6 217318-25-7,  
1H-Pyrazolo[1,5-a]benzimidazol-6-amine 217318-26-8 217318-27-9  
217318-28-0 217318-29-1 217318-30-4 217318-31-5  
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
(Uses)

(keratin fiber oxidn. dyeing compn.  
contg. oxidoreductase enzyme)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

(1) Aaslyng, D; WO 9719999 A 1997 HCPLUS  
 (2) Kyowa Hakko Kogyo KK; EP 0310675 A 1989 HCPLUS  
 (3) Masahiro, A; Journal of Organic Chemistry 1996, V61, P5610  
 (4) Samain, H; WO 9400100 A 1994 HCPLUS  
 (5) Yamahatsu Sangyo Kaisha; EP 0716846 A 1996 HCPLUS  
 (6) Yoshio, T; J Soc Cosmet Chem 1991, V42, P273  
 IT 9002-12-4, Uricase 9055-15-6, Oxidoreductase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)  
 (keratin fiber oxidn. dyeing compn.  
 contg. oxidoreductase enzyme)

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 50 OF 53 HCPLUS COPYRIGHT 2002 ACS

AN 1997:632602 HCPLUS

DN 127:283170

TI Agent and process for oxidative dyeing of keratin fibers

IN Kunz, Manuela; Le Cruer, Dominique

PA Wella Aktiengesellschaft, Germany

SO Eur. Pat. Appl., 11 pp.

CODEN: EPXXDW

DT Patent

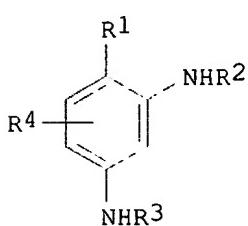
LA German

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 795313	A2	19970917	EP 1996-119343	19961203
	EP 795313	A3	19971022		
	R: DE, ES, FR, GB, IT				
	DE 19610392	A1	19970918	DE 1996-19610392	19960316
	JP 09249540	A2	19970922	JP 1996-355385	19961219
	JP 10007538	A2	19980113	JP 1997-67270	19970304
	US 5849041	A	19981215	US 1997-811614	19970305
	BR 9701309	A	19980818	BR 1997-1309	19970314
PRAI	DE 1996-19610392		19960316		
OS	MARPAT				
GI					



AB An oxidative hair dye compn. comprises an O2

**oxidoreductase/substrate system, a peroxidase, and a m-phenylenediamine coupler [I; C1-6 alkoxy, (substituted) C1-6 alkyl; R2, R3 = H, (substituted) C1-6 alkyl or mono- or dioxaalkyl; R4 = H, C1-6 alkyl] and has a pH of 6-9.5. Such compns. do not damage the hair and provide intense coloration, esp. when combined with direct dyes. Thus, a hair dye compn**

. contg. hydroxyethyl-p-phenylenediamine sulfate 0.025 mol, 2-amino-4-(2'-hydroxyethyl)aminoanisole sulfate 0.025 mol, glucose oxidase (EC 1.1.3.4) 400 U, peroxidase (EC 1.11.1.7) 400 U, iso-PrOH 5.000,, 1,2-propanediol 2.000, PEG-20 stearyl ether 1.400, glycerin 1.000, glucose 1.000, di-Na EDTA 0.300, ascorbic acid 0.100, 2-amino-6-chloro-4-nitrophenol 0.075, and 0.1M borate buffer to 100.000 g, adjusted to pH 7.7 and applied to bleached hair for 30 or 60 min at room temp., conferred an intense brown color on the hair.

ST oxidative hair dye oxidoreductase  
peroxidase; phenylenediamine hair dye  
oxidoreductase peroxidase

IT Oxidative hair dyes

(agent and process for oxidative dyeing of keratin fibers)

IT 50-21-5, biological studies 50-99-7, D-Glucose, biological studies 57-88-5, Cholesterol, biological studies 64-17-5, Ethanol, biological studies 69-89-6, Xanthine 69-93-2, Uric acid, biological studies 95-55-6, o-Aminophenol 95-70-5, 2,5-Diaminotoluene 106-50-3, 1,4-Benzenediamine, biological studies 127-17-3, Pyruvic acid, biological studies 144-62-7, Ethanedioic acid, biological studies 615-50-9 2835-99-6, 4-Amino-m-cresol 9001-37-0, Glucose oxidase 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase 9002-17-9, Xanthine oxidase 9003-99-0, Peroxidase 9028-72-2, Lactate oxidase 9028-76-6, Cholesterol oxidase 9031-79-2, Oxalate oxidase 9055-15-6, Oxidoreductase 9073-63-6, Alcohol oxidase 66422-95-5 75448-50-9 77636-89-6 83763-48-8 90267-82-6 93841-24-8 93841-25-9 144630-46-6 144630-47-7 196408-55-6 196408-56-7 196408-57-8

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(agent and process for oxidative dyeing of keratin fibers)

IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase 9002-17-9, Xanthine oxidase 9055-15-6, Oxidoreductase

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(agent and process for oxidative dyeing of keratin fibers)

RN 9001-37-0 HCPLUS

CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-17-9 HCPLUS

CN Oxidase, xanthine (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9055-15-6 HCPLUS

CN Oxidoreductase (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 51 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 1996:464484 HCPLUS  
 DN 125:95537  
 TI Stable one-pack oxidative hair dye composition containing uricase  
 IN Tsujino, Yoshio; Tomura, Kazuyo  
 PA Yamahatsu Sangyo Kaisha Ltd., Japan  
 SO Eur. Pat. Appl., 20 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM A61K007-13  
 CC 62-3 (Essential Oils and Cosmetics)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 716846	A1	19960619	EP 1995-108786	19950607
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
	CA 2150596	AA	19960617	CA 1995-2150596	19950531
	AU 9536624	A1	19960627	AU 1995-36624	19951031
	JP 08217652	A2	19960827	JP 1995-324370	19951213
	CN 1132623	A	19961009	CN 1995-119895	19951213
PRAI	JP 1994-313175		19941216		
AB	A 1-pack-type oxidative hair dye compn. with improved stability comprises uricase, an oxidative dye, uric acid, and optionally a reducing agent whose electrode potential is more pos. than that of ascorbic acid but more neg. than that of uric acid. The pH of the compn. is 6.7-9.5. Thus, a hair dye contg. p-phenylenediamine 2.0, m-phenylenediamine-HCl 0.1, m-aminophenol 0.8, Na <sub>2</sub> SO <sub>3</sub> 0.08, polyoxyethylene cetyl ether 8.0, stearyl alc. 2.5, oleyl alc. 5.0, behenyl alc. 2.0, cetyl alc. 2.0, cetyltrimethylammonium chloride 1.0, glycerol 2.0, uricase (20 IU/mg) 1.5, uric acid 5.0, ethanolamine to pH 8.75, and water to 100 wt.% conferred a grayish color on white hair.				
ST	oxidative hair dye uricase urate				
IT	Reducing agents (as stabilizers; stable one-pack oxidative hair dye compn. contg. uricase)				
IT	Stabilizing agents (reducing agents as; stable one-pack oxidative hair dye compn. contg. uricase)				
IT	Hair preparations (dyes, oxidative, stable one-pack oxidative hair dye compn. contg. uricase)				
IT	68-11-1, Thioglycolic acid, biological studies 134-03-2, Sodium ascorbate 616-91-1, N-Acetyl-L-cysteine 3374-22-9, DL-Cysteine 7757-83-7, Sodium sulfite RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) (stabilizer; stable one-pack oxidative hair dye compn. contg. uricase)				
IT	69-93-2, Uric acid, biological studies 95-55-6, o-Aminophenol 106-50-3, p-Phenylenediamine, biological studies 108-45-2, m-Phenylenediamine, biological studies 123-30-8, p-Aminophenol 541-69-5, m-Phenylenediamine hydrochloride 591-27-5, m-Aminophenol 9002-12-4, Uricase 19142-74-6, Potassium urate RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)				

(stable one-pack oxidative hair dye compn  
 . contg. uricase)

IT 9002-12-4, Uricase  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES  
 (Uses)

(stable one-pack oxidative hair dye compn  
 . contg. uricase)

RN 9002-12-4 HCAPLUS

CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 52 OF 53 HCAPLUS COPYRIGHT 2002 ACS

AN 1994:143670 HCAPLUS

DN 120:143670

TI Hair dye preparations containing indole or indoline derivatives, hydrogen peroxide and a peroxidase

IN Samain, Henri; Dubief, Claude

PA Oreal S. A., Fr.

SO PCT Int. Appl., 30 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM A61K007-13

CC 62-3 (Essential Oils and Cosmetics)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9400100	A1	19940106	WO 1993-FR617	19930622
	W: CA, JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	FR 2692782	A1	19931231	FR 1992-7784	19920625
	FR 2692782	B1	19950623		
	EP 645999	A1	19950405	EP 1993-913170	19930622
	EP 645999	B1	19960131		
	R: DE, FR, GB				
	JP 07508271	T2	19950914	JP 1993-502094	19930622
	US 5538517	A	19960723	US 1995-360850	19950308
PRAI	FR 1992-7784		19920625		
	WO 1993-FR617		19930622		
OS	MARPAT 120:143670				
AB	Hair dye preps. contain indole or indoline derivs. (Markush structure given), H <sub>2</sub> O <sub>2</sub> and a peroxidase. A hair dye comprised 5,6-dihydroxyindole 1, EtOH 10, water q.s. to 100g, pH=6.4 in a container and horseradish peroxidase 2600 unit, 20 vol. H <sub>2</sub> O <sub>2</sub> 2.5, monoethanolamine q.s. pH=5.1, and water 100g in a sep. container.				
ST	hair dye indole hydrogen peroxide peroxidase; indoline hair dye hydrogen peroxide peroxidase				
IT	Hair preparations				
	(dyes, indole or indoline derivs. and hydrogen peroxide and peroxidase in)				
IT	Carbohydrates and Sugars, biological studies				
	RL: PREP (Preparation)				
	(pyranoses, in hydrogen peroxide prepn., for hair dye compns. contg. indole or indoline derivs. and peroxidase)				
IT	1953-54-4, 5-Hydroxyindole 2380-82-7, 6-Hydroxy 5-methoxyindole 2380-84-9, 7-Hydroxyindole 2380-86-1, 6-Hydroxyindole 2380-94-1, 4-Hydroxyindole 3131-52-0, 5,6-Dihydroxyindole 4790-08-3, 5,6-Dihydroxyindole 2-carboxylic acid 4813-45-0, 3-Methyl 5,6-dihydroxyindole 4821-00-5, 1-Methyl 5,6-dihydroxyindole 4821-01-6,				

2-Methyl 5,6-dihydroxyindole 5107-75-5, 2,3-Dimethyl-5,6-dihydroxyindole  
 5192-03-0, 5-Aminoindole 5192-04-1, 7-Aminoindole 5192-23-4,  
 4-Aminoindole 29539-03-5, 5,6-Dihydroxyindoline 74795-36-1, 5-Methoxy  
 6-hydroxyindoline 119963-90-5, 2-Methyl 5,6-dihydroxyindole hydrobromide  
 121545-88-8, 4,5-Dihydroxyindoline 121545-90-2, 4-Hydroxy  
 5-methoxyindoline 139721-20-3, N-Ethyl 5,6-dihydroxyindoline  
 139721-21-4, N-Methyl 5,6-dihydroxyindoline 139721-22-5, N-Butyl  
 5,6-dihydroxyindoline 151980-97-1, 6-Hydroxy-7-methoxyindoline  
 151980-99-3, 6,7-Dihydroxyindoline  
 RL: BIOL (Biological study)  
 (hair dye prepns. contg. hydrogen peroxide and peroxidase and)

IT 9003-99-0, Peroxidase  
 RL: BIOL (Biological study)  
 (hair dye prepns. contg. indole or indoline derivs. and hydrogen  
 peroxide and)

IT 7722-84-1, Hydrogen peroxide, biological studies  
 RL: BIOL (Biological study)  
 (hair dye prepns. contg. indole or indoline derivs. and peroxidase and)

IT 50-21-5, Lactic acid, biological studies 50-99-7,  
 Glucose, biological studies 56-84-8, Aspartic acid, biological  
 studies 56-86-0, Glutamic acid, biological studies 59-23-4, Galactose,  
 biological studies 64-17-5, Ethanol, biological studies 67-63-0,  
 Isopropanol, biological studies 69-93-2, Uric acid, biological  
 studies 87-79-6, L-Sorbose 127-17-3, Pyruvic acid,  
 biological studies 144-62-7, Oxalic acid, biological studies  
 9001-37-0, Glucose oxidase 9001-96-1, Pyruvate  
 oxidase 9002-12-4, Uricase 9028-72-2, Lactate  
 oxidase 9028-79-9, Galactose oxidase 9031-79-2, Oxalate oxidase  
 9073-63-6, Alcohol oxidase 37250-80-9, Pyranose oxidase 37250-81-0  
 39346-34-4, Glutamate oxidase 69106-47-4 71245-08-4, Secondary alcohol  
 oxidase  
 RL: BIOL (Biological study)  
 (in hydrogen peroxide prep., for hair dye  
 compns. contg. indole or indoline derivs. and peroxidase)

IT 9001-37-0, Glucose oxidase 9002-12-4, Uricase  
 RL: BIOL (Biological study)  
 (in hydrogen peroxide prep., for hair dye  
 compns. contg. indole or indoline derivs. and peroxidase)

RN 9001-37-0 HCPLUS  
 CN Oxidase, glucose (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-12-4 HCPLUS  
 CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

L70 ANSWER 53 OF 53 HCPLUS COPYRIGHT 2002 ACS  
 AN 1991:519807 HCPLUS  
 DN 115:119807  
 TI The application of oxidases to hair dyeing and permanent waving  
 AU Tsujino, Yoshio; Kitayama, Kouji; Yokoo, Yoshiharu; Sakato, Kuniaki  
 CS Yamahatsu Sangyo Kaisha, Ltd., Osaka, 557, Japan  
 SO J. SCCJ (1991), 24(3), 220-3  
 CODEN: JOSCDQ; ISSN: 0387-5253  
 DT Journal  
 LA Japanese  
 CC 62-3 (Essential Oils and Cosmetics)  
 AB The use of H<sub>2</sub>O<sub>2</sub> produced by enzymic oxidn. was investigated for oxidative  
 hair dyeing and permanent waving. For enzymic oxidns. pyruvate

oxidase, lactate oxidase, glycerol oxidase, xanthine oxidase, uricase and pyranose oxidase were used. Successful dyeing of goat hair was carried out using uricase and pyranose oxidase in a com. hair dyeing formulation with p-phenylenediamine. Uricase produced the max. H<sub>2</sub>O<sub>2</sub> concn. up to about 0.06% after 5 min. of reaction at pH 7.0. The effect of enzyme on hair waving was estd. according to the Kirby method. Results on waving efficiency and wave retention ratio showed that permanent waving with uricase is almost equiv. to the chem. method with NaBr.

- ST Oxidase hair prepn peroxide  
IT Hair preparations  
(dyes, oxidases in, for prodn. of hydrogen peroxide)  
IT Hair preparations  
(wave-setting, oxidases in, for prodn. of hydrogen peroxide)  
IT 9001-96-1, Pyruvate oxidase 9002-12-4, Uricase  
9002-17-9, Xanthine oxidase 9028-72-2, Lactate oxidase  
9035-73-8, Oxidase 37250-80-9, Pyranose oxidase 69669-73-4,  
Glycerol oxidase  
RL: BIOL (Biological study)  
(hydrogen peroxide produced by, in hair dye and  
permanent waving compns.)  
IT 7722-84-1P, Hydrogen peroxide, uses and miscellaneous  
RL: PREP (Preparation); USES (Uses)  
(oxidases prodn. of, in hair dye and permanent waving compns  
. )  
IT 9002-12-4, Uricase 9002-17-9, Xanthine oxidase  
RL: BIOL (Biological study)  
(hydrogen peroxide produced by, in hair dye and  
permanent waving compns.)  
RN 9002-12-4 HCPLUS  
CN Oxidase, urate (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 9002-17-9 HCPLUS  
CN Oxidase, xanthine (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*